**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

IOENGINE, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. _____
	)	
PAYPAL HOLDINGS, INC.,	)	
	)	
Defendant.	)	Jury Trial Demanded
	)	

COMPLAINT FOR PATENT INFRINGEMENT

1.   Plaintiff IOENGINE, LLC ("Plaintiff" or "IOENGINE"), by and through its undersigned counsel, alleges as follows:

THE PARTIES

2.   IOENGINE is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business at 22 Ensign Road, Norwalk, Connecticut 06853.

3.   Defendant PayPal Holdings, Inc. ("Defendant" or "PayPal") is a corporation organized and existing under the laws of the State of Delaware, having a place of business at 2211 North First Street, San Jose, California, 95131.

4.   Defendant's registered agent in the State of Delaware is The Corporation Trust Company, 1209 Orange Street, City of Wilmington, County of New Castle, 19801.

JURISDICTION AND VENUE

5.   This is an action for patent infringement arising under the patent laws of the

United States, 35 U.S.C. § 100 et seq., including, but not limited to, 35 U.S.C. § 271.

6.   This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C.

§§ 1331 and 1338(a).

7.   This Court has personal jurisdiction over PayPal. On information and belief,

Defendant is subject to this Court's specific and general personal jurisdiction pursuant to due

process and the Delaware Long-Arm Statute, due to its (i) substantial business in this forum,

including at least a portion of the infringing acts alleged herein; (ii) incorporation in the forum;

and (iii) regularly doing or soliciting business, engaging in other persistent courses of conduct,

and deriving substantial revenue from infringing goods and services provided to individuals in

Delaware.

8.   On information and belief, within this state, PayPal has offered for sale and sold,

and continues to offer for sale and sell, products and services embodying the patented

inventions, thereby committing, contributing to, and inducing, and continuing to commit,

contribute to, and induce, acts of patent infringement alleged herein. On information and belief,

PayPal maintains a regular and established place of business in this District, including through a

facility at 3505 Silverside Road, Wilmington, Delaware 19810. PayPal has committed such

purposeful acts and/or transactions in Delaware such that it reasonably should know and expect

that it could be haled into this Court as a consequence of such activity.

9.   Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c), and 1400(b)

because, among other reasons, Defendant is incorporated in and resides in the State of Delaware

and because Defendant regularly transacts or solicits business in this District and has committed

at least a portion of the infringing acts at issue in this case from and within this District. On

information and belief, Defendant has a regular and established place of business in this District

at 3505 Silverside Road, Wilmington, Delaware 19810. In addition, on information and belief,

Defendant employs a number of persons in this District and derives and has derived substantial

revenue from goods and services provided to persons or entities in this District and from

infringing acts occurring within this District.

10.   Venue is additionally proper in this District because IOENGINE is incorporated

in the State of Delaware and because one of the patents-in-suit has twice been litigated and tried

to a jury verdict in this District.[1]

BACKGROUND

11.   This dispute involves fundamental technology that allows portable electronic

devices, used in conjunction with terminals, to support enhanced functionality. For example,

the technology at issue allows users to interact with portable devices through a terminal's

interactive user interface, using the terminal's input and output components, while maintaining

a secure processing environment on the portable device to enable secure communications

between the portable device, the terminal, and a communications network. Further, the

technology at issue describes terminals and portable devices that execute program code in a

coordinated fashion, allowing for a convenient, secure way to conduct electronic transactions,

such as processing mobile credit card payments and refunds.

12.   The technology at issue was invented by Mr. Scott McNulty, who also founded

IOENGINE.

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[1]   *See IOENGINE, LLC v. Imation, Corp.,* no. 14-cv-1572 (D. Del.); *IOENGINE, LLC v.
Interactive Media Corp. d/b/a Kanguru Solutions*, no. 14-cv-1571 (D. Del.).

THE IOENGINE PATENTS-IN-SUIT

13.   On September 17, 2013, the United States Patent and Trademark Office duly and legally issued United States Patent No. 8,539,047 (the "'047 Patent"), entitled "Apparatus, Method and System for a Tunneling Client Access Point," after full and fair examination. The application that led to the '047 Patent, U.S. Patent Application Ser. No. 12/950,321, was a continuation of U.S. Patent Application Ser. No. 10/807,731, filed on March 23, 2004. A true and correct copy of the '047 Patent is attached hereto as Exhibit A.

14.   On June 16, 2015, the United States Patent and Trademark Office duly and legally issued United States Patent No. 9,059,969 (the "'969 Patent"), entitled "Apparatus, Method and System for a Tunneling Client Access Point" after full and fair examination. The application that led to the '969 Patent, U.S. Patent Application Ser. No. 13/960,514, was a continuation of U.S. Patent Application Ser. No. 12/950,321, which was a continuation of U.S. Patent Application Ser. No. 10/807,731, filed on March 23, 2004. A true and correct copy of the '969 Patent is attached hereto as Exhibit B.

15.   On September 26, 2017, the United States Patent and Trademark Office duly and legally issued United States Patent No. 9,774,703 (the "'703 Patent"), entitled "Apparatus, Method and System for a Tunneling Client Access Point" after full and fair examination. The application that led to the '703 Patent, U.S. Patent Application Ser. No. 14/721,540, was a continuation of U.S. Patent Application Ser. No. 13/960,514, which was a continuation of U.S. Patent Application Ser. No. 12/950,321, which was a continuation of U.S. Patent Application Ser. No. 10/807,731, filed on March 23, 2004. A true and correct copy of the '703 Patent is attached hereto as Exhibit C.

16.   IOENGINE is the assignee of all right, title, and interest in and to the '047 Patent, the '969 Patent, and the '703 Patent (collectively, the "Patents-in Suit") and possesses

all rights of recovery under the Patents-in-Suit, including the right to recover damages for past

infringement.

17.   All of the Patents-in-Suit are valid, enforceable, and unexpired.

PAYPAL'S INFRINGEMENT

18.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding

paragraphs as if fully set forth herein.

19.   As described below, PayPal infringes claims of each of the Patents-in-Suit

directly (alone or jointly), by making, using, selling, offering for sale, and importing into the

United States certain products or services, and indirectly by contributing to and inducing direct

infringement by others, by encouraging and instructing others to make and use such products or

services in an infringing manner.

20.   More specifically, the infringing products (the "PayPal Infringing Products")

include, but are not limited to, PayPal's card reader products for mobile payments (for example,

the PayPal Chip Card Reader, PayPal Mobile Card Reader, PayPal Chip and Swipe Reader, and

PayPal Chip and Tap Reader)[2] alone or in combination with a credit card, debit card, smart card,

or contactless payment device; PayPal or third party mobile applications used in connection with

PayPal's card reader products (*e.g.*, the PayPal Here App); PayPal's secure financial transaction

servers used in connection with PayPal's card reader products to process credit, debit, and smart

card transactions and contactless payment transactions; products and systems incorporating the

foregoing; and reasonably similar PayPal products with on-board storage and processing

capabilities that embody the apparatuses or practice the methods claimed by each of the Patents-

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[2]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/credit-card-reader.

in-Suit. The PayPal Infringing Products meet the limitations of at least one claim of each of the

Patents-in-Suit literally and/or under the doctrine of equivalents.

21.   The PayPal Infringing Products include portable card and contactless payment

readers that are designed to provide a "a mobile payment solution" to allow users to "accept

multiple forms of payment simply and securely, wherever your business takes you," both "on-

the-go or in your store."[3]

22.   PayPal instructs and encourages its customers to use the PayPal Infringing

Products in a manner that infringes at least one claim of each of the Patents-in-Suit, including

by providing software development kits for the PayPal Infringing Products,[4] by providing

information on its website (*available at* www.paypal.com) and on third-party platforms (*e.g.*,

https://www.youtube.com/user/PayPal), including videos, demonstrations, and other

information, and by providing technical support for the PayPal Infringing Products. In each

case, the information and materials provided by PayPal contain detailed descriptions and

instructions for using and implementing functionality claimed in each of the Patents-in-Suit

including, at least, card reader device setup, processing chip card ("EMV") card payments,

processing magnetic stripe card payments, processing contactless payments, processing refunds,

and processing firmware updates. PayPal additionally instructs and encourages its customers

and third parties to use the PayPal Infringing Products in a manner that infringes at least one

claim of each of the Patents-in-Suit by instructing and encouraging its customers and third

parties to use the PayPal Infringing Products with PayPal's Point of Sale Partners (*e.g.*, the Lavu

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[3]   https://www.paypal.com/webapps/mpp/credit-card-reader.

[4]   *See, e.g.*, https://developer.paypal.com/docs/integration/paypal-here/.

Point of Sale App,[5] TouchBistro App,[6] Vend Register App,[7] ERPLY cloud-based POS

software[8], Brightpearl POS system,[9] and TouchPoint POS system,[10]each a "POS Partner App").

FIRST COUNT FOR RELIEF
(DIRECT INFRINGEMENT OF THE '047 PATENT)

23.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding

paragraphs as if fully set forth herein.

24.   The '047 Patent is presumed valid and PayPal has had actual knowledge of the

'047 Patent at least as early as the filing of this Complaint.

25.   PayPal is not licensed under the '047 Patent and has no other right or permission

to practice the invention embodied therein.

26.   On information and belief, PayPal has infringed and continues to infringe, directly

(alone or jointly), literally, and/or under the doctrine of equivalents, in violation of 35 U.S.C. §

271, one or more claims of the '047 Patent by performing, without authority, one or more of the

following acts: making, having made, using, importing, selling, and offering for sale in the

United States one or more products or services that embody the invention claimed in the '047

Patent, including but not limited to the PayPal Infringing Products. Since at least after receiving

notice of this Complaint, Defendant has knowingly infringed, and continues to infringe, one or

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[5]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/partner/lavu-pos.

[6]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/partner/touchbistro-pos.

[7]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/partner/vend-pos.

[8]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/partner/erply-pos.

[9]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/point-of-sale-systems/retail-pos/brightpearl.

[10]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/point-of-sale-systems/restaurant-pos/touchpoint.

more claims of the '047 Patent by making, having made, using, importing, selling, and offering

for sale in the United States the PayPal Infringing Products, which products constitute a material

part of the invention and are not staple articles or commodities of commerce suitable for

substantial non-infringing use.

27.   For example, the PayPal Infringing Products embody the patented invention of the

'047 Patent and infringe at least Claim 1 of the '047 patent because each of PayPal's card reader

products for mobile payments is:

> "[a] portable device, comprising:
>
> (a) an external communications interface configured to enable the transmission of a plurality of communications between the portable device and a terminal comprising a terminal processor, a first input component, a first output component, and a network interface;
>
> (b) a processor; and
>
> (c) a memory having executable program code stored thereon, including:
>
> (1) first program code which, when executed, causes an interactive user interface to be presented on the first output component, wherein the interactive user interface is configured to enable the user to cause the portable device processor to execute program code stored on the portable device memory;
>
> (2) second program code which, when executed, enables the portable device to (i) receive a communication resulting from user interaction with the interactive user interface and (ii) cause a communication to be sent through the terminal network interface to a communications network node; and
>
> (3) third program code which, when executed by the portable device processor in response to a communication resulting from user interaction with the interactive user interface, causes a communication to be transmitted to a communications network node;
>
> wherein the portable device is configured to effect the display on the first output component of processing activity of program code stored on the portable device memory; and

wherein the portable device is configured to communicate with the terminal and to communicate through the terminal network interface with the communications network node."[11]

28.   **Direct Infringement: PayPal Chip Card Reader.**

The PayPal Chip Card Reader is a portable device that offers a "secure way to process chip card, contactless, and swipe payments on-the-go or in your store":
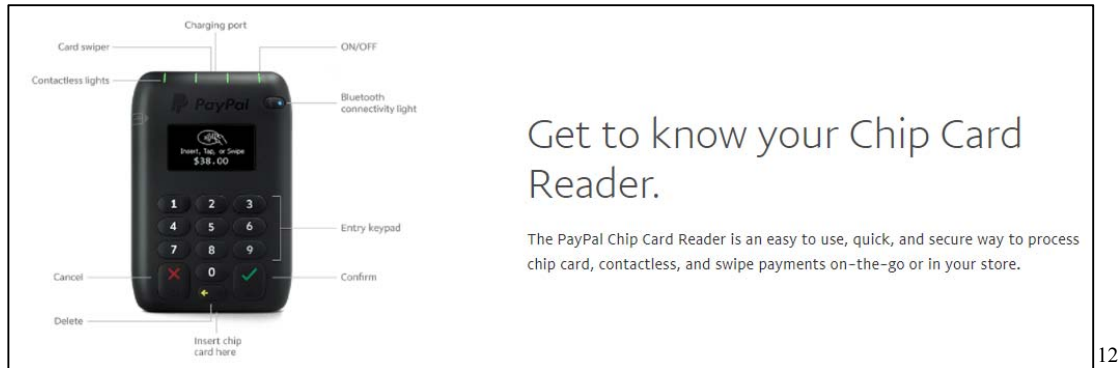
29.   The PayPal Chip Card Reader contains a Freescale MCIMX258CJM4A M09P ARM core processor or its equivalent:

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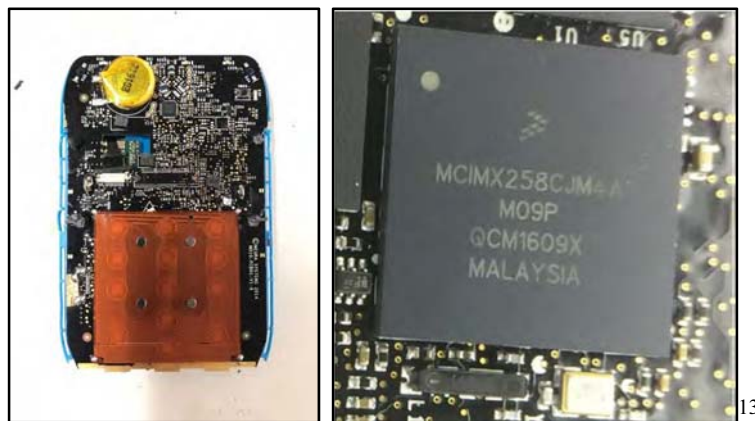
[11]   '047 Patent, Claim 1.

[12]   *See* PayPal Chip Card Reader Guide, available at https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-card-reader (the "PayPal Chip Card Reader Guide Website").

[13]   Unless otherwise noted, all pictures of the internal components of the PayPal Chip Card Reader were taken of a PayPal Chip Card Reader with the plastic covering removed.

30.   The Freescale MCIMX258CJM4A M09P ARM core processor contains 128 KB SRAM, 32 KB ROM, and/or 16 KB data cache memory, or its equivalent.

31.   The PayPal Chip Card Reader contains a 2GB Micron Flash memory module with FBGA code NQ282, corresponding to part number MT29F2G08ABBEAHC-IT:E and/or a 512MB SDRAM memory module with FPGA Code D9LQQ, corresponding to part number MT46H32M16LFBF-5 IT:C, or its equivalent:

32.   The PayPal Chip Card Reader contains a Bluetooth communications interface configured to enable the transmission of communications between the PayPal Chip Card Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, and a network interface and that contains the PayPal Here App or a POS Partner App). The PayPal Chip Card Reader uses Bluetooth to "pair" with the terminal:

Pair your device to your card reader in 3 steps:

1   Go to your mobile device Settings and turn on Bluetooth®. You'll see a list of available Bluetooth devices.

2   Turn on the card reader. The on-screen Bluetooth icon will start to blink rapidly, indicating that it's ready to connect.

3   Select the card reader from the list of available Bluetooth devices. A steady Bluetooth light on the card reader will indicate that it's successfully paired.

From now on, your card reader will auto-connect to the app whenever you turn it on. Watch our video to learn more about pairing devices. [14]
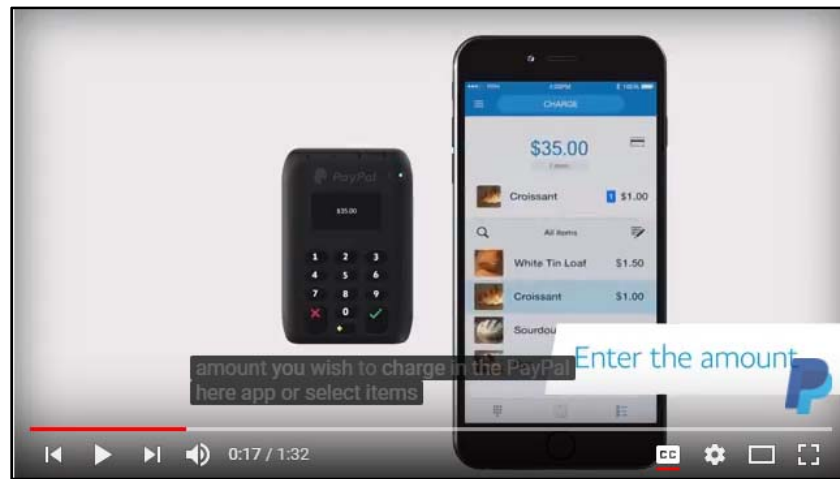
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[14]   *See* PayPal Chip Card Reader Guide Website.

33.   On information and belief, the PayPal Chip Card Reader's memory stores program code that is configured to cause an interactive user interface to be presented on the terminal's display (for example, to indicate that the PayPal Chip Card Reader has been paired with the terminal, or to display a message that the PayPal Chip Card Reader requires an update), which the user can interact with (for example, to initiate a credit card transaction, or to initiate a firmware update).

34.   For example, the PayPal Here App presents a message when a PayPal Chip Card Reader has been connected and is available for transactions:

How to Setup Chip Card Reader on Mobile or Tablet (PayPal Here) [15]
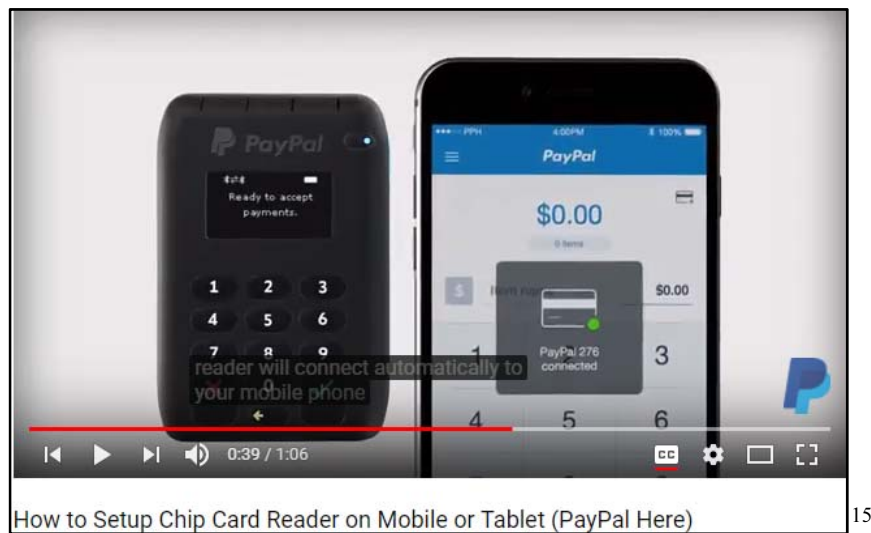
35.   Also, if a card reader software ("firmware") update is necessary, the PayPal Here App presents a message that a firmware update is required:

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[15]   Unless otherwise noted, all screen captures of PayPal's instructional videos for the PayPal Chip Card Reader were captured from https://youtu.be/nY5tsHB-S70, last visited Mar. 23, 2018, also available from https://www.youtube.com/user/PayPal (PayPal's "verified" YouTube channel).
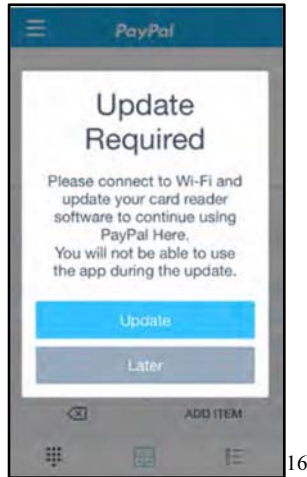
36.   Further, on information and belief, the PayPal Chip Card Reader's memory stores program code that is configured to enable the PayPal Chip Card Reader to receive communications resulting from user interaction with the PayPal Here App or a POS Partner App's user interface displayed on the terminal and to cause a communication to be sent to a network server through the terminal's network interface (for example, program code to enable the PayPal Chip Card Reader to receive communications and to cause communications to be sent via Bluetooth, in connection with the processing of payments or firmware updates).

37.   On information and belief, the PayPal Chip Card Reader's memory also stores program code to be executed by the PayPal Chip Card Reader's processor in response to a communication resulting from user interaction with a user interface on the terminal that is configured to cause a communication to be sent to a network server through the terminal's network interface (for example, to cause a communication to be sent to PayPal's secure financial transaction servers to process payments using the PayPal Here App or a POS Partner App, or to request firmware updates).

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[16]   Unless otherwise noted, all screen captures of the PayPal Here App in use with the PayPal Chip Card Reader were taken on an iPhone 5s running the PayPal Here App.

38.   For example, the PayPal Here App's user interface allows the user to enter the charge amount and to initiate the transaction by pressing the "charge" button:

39.   The PayPal Here App's user interface also allows the user to initiate a firmware update by pressing the "update" button:

40.   On information and belief, the PayPal Chip Card Reader's memory stores program code to be executed by the PayPal Chip Card Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network to process the transaction:

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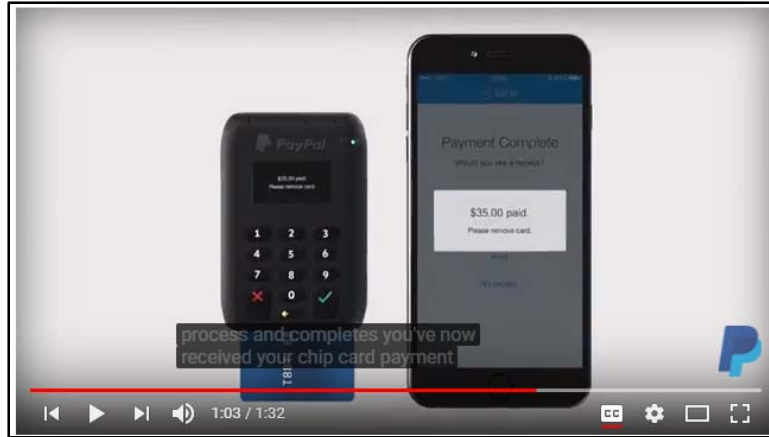
41.   On information and belief, the PayPal Chip Card Reader's memory also stores program code to be executed by the PayPal Chip Card Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network to download a firmware update:

42.   On information and belief, the PayPal Chip Card Reader is configured to effect the terminal's display of processing activity of program code stored on the PayPal Chip Card Reader's memory (for example, to indicate successful pairing of the PayPal Chip Card Reader to the terminal, to display payment processing progress details, to provide payment processing confirmation, or to display firmware update details).

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43.   For example, the PayPal Chip Card Reader is configured to effect the display of the terminal running the PayPal Here App to indicate that a chip card has been inserted and that the transaction is processing:

44.   The PayPal Chip Card Reader is also configured to effect the display of the terminal running the PayPal Here App to indicate that the firmware has been updated successfully:
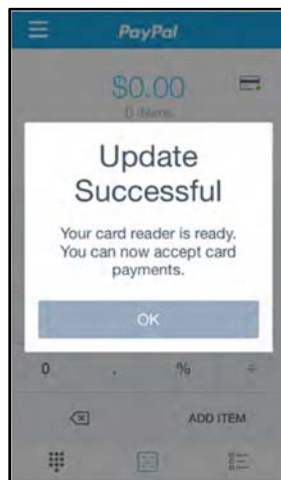
45.   The PayPal Chip Card Reader is configured to communicate with the terminal running the PayPal Here App or a POS Partner App, and to communicate through the terminal's network interface to a network server (for example, for securely processing credit card or contactless payment transactions, or firmware updates).

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46.   **Direct Infringement: PayPal Mobile Card Reader.**

The PayPal Mobile Card Reader is a portable device that "fits in your pocket and works with compatible mobile devices to help get you paid on-the-go":
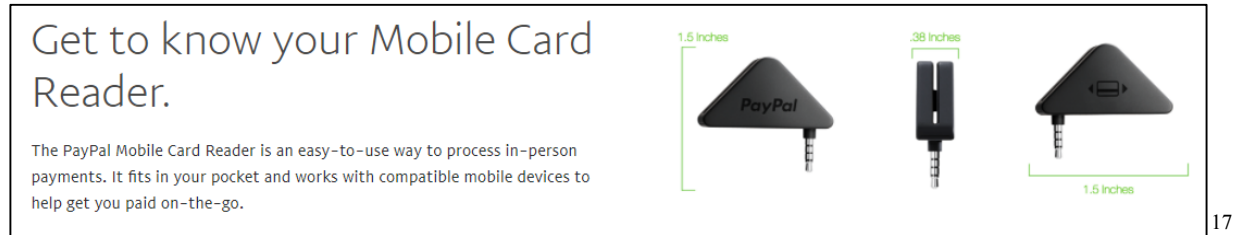
47.   The PayPal Mobile Card Reader contains a EFM32 TG110F32 ARM Cortex-M3 processor or its equivalent:
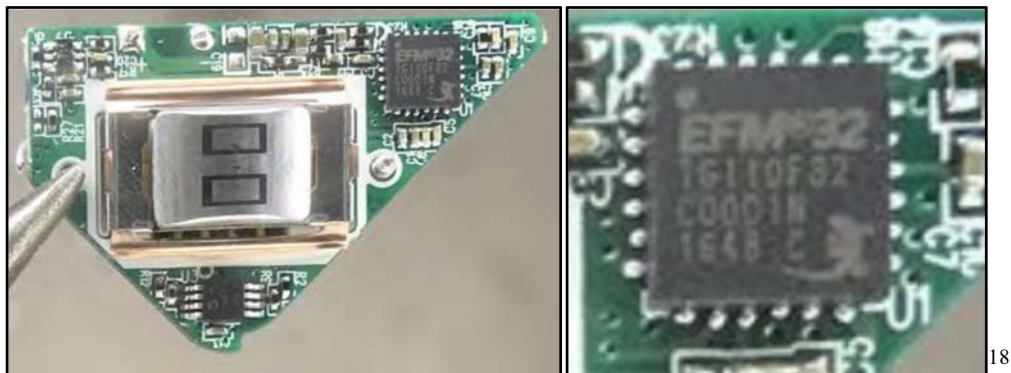
48.   The PayPal Mobile Card Reader contains memory, including at least up to 32 KB Flash memory and up to 4KB RAM memory integrated into an EFM32 TG110F32 ARM Cortex-M3 processor, or its equivalent.

49.   The PayPal Mobile Card Reader includes an audio jack communications interface (*e.g.*, an AHJ connector) configured to enable the transmission of communications between the

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[17]   *See* PayPal Mobile Card Reader Guide, available at https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/mobile-card-reader (the "PayPal Mobile Card Reader Guide Website").

[18]   Unless otherwise noted, all pictures of the internal components of the PayPal Mobile Card Reader were taken of a PayPal Mobile Card Reader with the plastic covering removed.

PayPal Mobile Card Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, and a network interface and that contains the PayPal Here App or a POS Partner App).
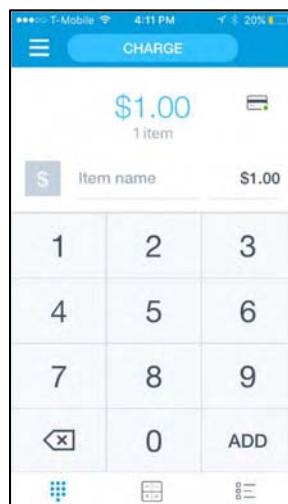
50.   On information and belief, the PayPal Mobile Card Reader's memory stores program code that is configured to cause an interactive user interface to be presented on the terminal's display (for example, to indicate that the PayPal Mobile Card Reader has been connected to the terminal and detected), which the user can interact with (for example, to initiate a credit card transaction).

51.   For example, the PayPal Here App presents a message when the PayPal Mobile Card Reader has been detected:

52.   Further, on information and belief, the PayPal Mobile Card Reader's memory stores program code that is configured to enable the PayPal Mobile Card Reader to receive communications (for example, an audio-data communication sent to the PayPal Mobile Card

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[19]   Unless otherwise noted, all screen captures of the PayPal Here App in use with the PayPal Mobile Card Reader were taken on an iPhone 5s running the PayPal Here App.

Reader device over audio pins (pins 3 and 4) of the AHJ interface) resulting from user interaction

with the PayPal Here App or a POS Partner App's user interface displayed on the terminal and to

cause a communication to be sent to a network server through the terminal's network interface

(for example, program code to enable the PayPal Mobile Card Reader to receive communications

and to cause communications to be sent via audio-data communication, in connection with the

processing of payments).

53.   On information and belief, the PayPal Mobile Card Reader's memory also stores

program code to be executed by the PayPal Mobile Card Reader's processor in response to a

communication resulting from user interaction with a user interface on the terminal that is

configured to cause a communication to be sent to a network server through the terminal's

network interface (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App).

54.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:

55.   On information and belief, the PayPal Mobile Card Reader's memory stores

program code to be executed by the PayPal Mobile Card Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network to process the transaction:

56.   On information and belief, the PayPal Mobile Card Reader is configured to effect the terminal's display of processing activity of program code stored on the PayPal Mobile Card Reader's memory (for example, to indicate successful connection to the terminal and detection of the PayPal Mobile Card Reader, or to display payment processing progress details and to provide payment processing confirmation).

57.   For example, the PayPal Mobile Card Reader is configured to effect the display of the terminal running the PayPal Here App to indicate that the PayPal Mobile Card Reader has been detected:

58.   The PayPal Mobile Card Reader is also configured to effect the display of the

terminal running the PayPal Here App to indicate that a credit card swipe was successful:

59.   The PayPal Mobile Card Reader is configured to communicate with the terminal

running the PayPal Here App or a POS Partner App, and to communicate through the terminal's

network interface to a network server (for example, for securely processing credit card

transactions).

60.   **Direct Infringement: PayPal Chip and Swipe Reader**.

The PayPal Chip and Swipe Reader is a portable device that allows users to "[g]et paid where your business takes you":

61.   The PayPal Chip and Swipe Reader contains an ARM STM 32F103 Series microprocessor or its equivalent:
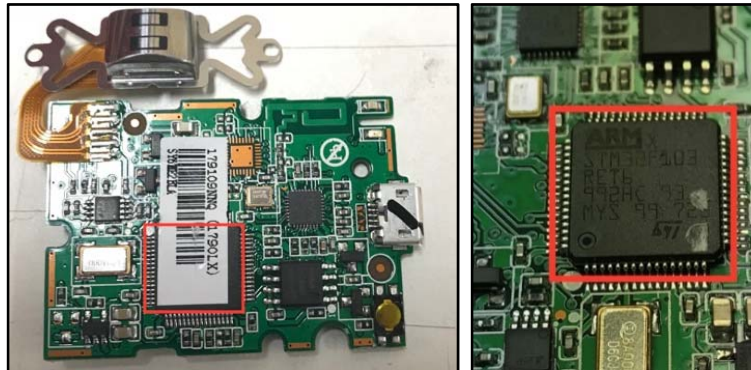
62.   The PayPal Chip and Swipe Reader contains memory, including 16 Kbytes to 1 Mbyte of Flash and 6K to 96K SRAM memory integrated into an ARM STM 32F103 Series microprocessor, or its equivalent.

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20   *See* PayPal Chip and Swipe Reader Guide, available at https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-and-swipe-reader (the "PayPal Chip and Swipe Reader Guide Website").

21   Unless otherwise noted, all pictures of the internal components of the PayPal Chip and Swipe Reader were taken of a PayPal Chip and Swipe Reader with the plastic covering removed.

63.   The PayPal Chip and Swipe Reader contains a Bluetooth communications interface configured to enable the transmission of communications between the PayPal Chip and Swipe Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, and a network interface and that contains the PayPal Here App or a POS Partner App). The PayPal Chip and Swipe Reader uses Bluetooth to "pair" with the terminal:
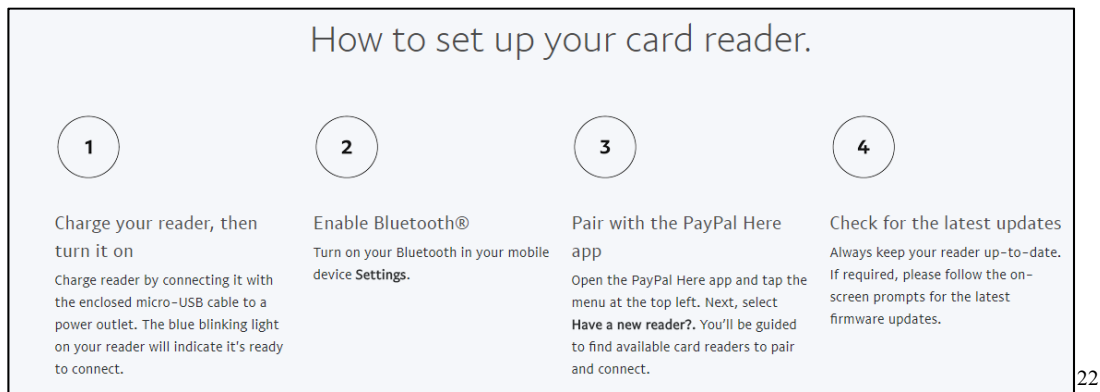
64.   On information and belief, the PayPal Chip and Swipe Reader's memory stores program code that is configured to cause an interactive user interface to be presented on the terminal's display (for example, to indicate that the PayPal Chip and Swipe Reader has been paired with the terminal, or to display a message that the PayPal Chip and Swipe Reader requires an update), which the user can interact with (for example, to initiate a credit card transaction, or to initiate a firmware update).

65.   For example, the PayPal Here App presents a message when a PayPal Chip and Swipe Reader has been connected and is available for transactions:

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22   *See* PayPal Chip and Swipe Reader Guide Website.
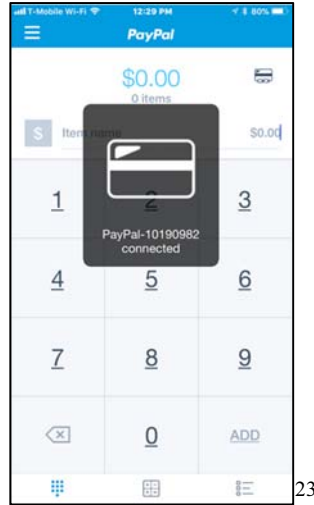
66.   Also, if a firmware update is necessary, the PayPal Here App presents a message

that a firmware update is required:
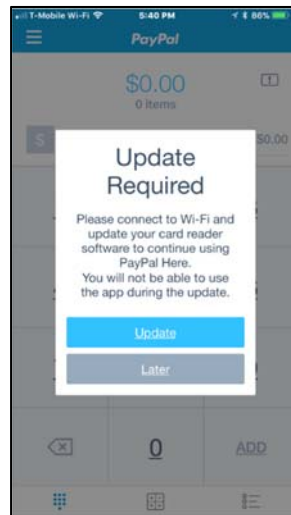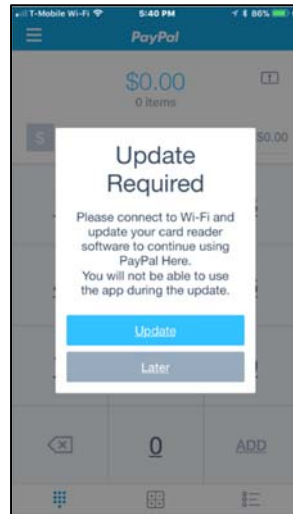

67.   Further, on information and belief, the PayPal Chip and Swipe Reader's memory

stores program code that is configured to enable the PayPal Chip and Swipe Reader to receive

communications resulting from user interaction with the PayPal Here App or a POS Partner

App's user interface displayed on the terminal and to cause a communication to be sent to a

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23   Unless otherwise noted, all screen captures of the PayPal Here App in use with the PayPal
Chip and Swipe Reader were taken on an iPhone 7 Plus running the PayPal Here App.

network server through the terminal's network interface (for example, program code to enable

the PayPal Chip and Swipe Reader to receive communications and to cause communications to

be sent via Bluetooth, in connection with the processing of payments or firmware updates).
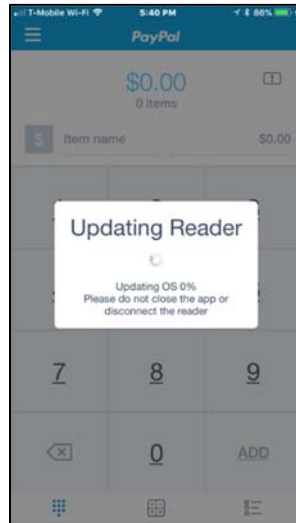
68.   On information and belief, the PayPal Chip and Swipe Reader's memory also

stores program code to be executed by the PayPal Chip and Swipe Reader's processor in

response to a communication resulting from user interaction with a user interface on the terminal

that is configured to cause a communication to be sent to a network server through the terminal's

network interface (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App, or to

request firmware updates).

69.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:

---
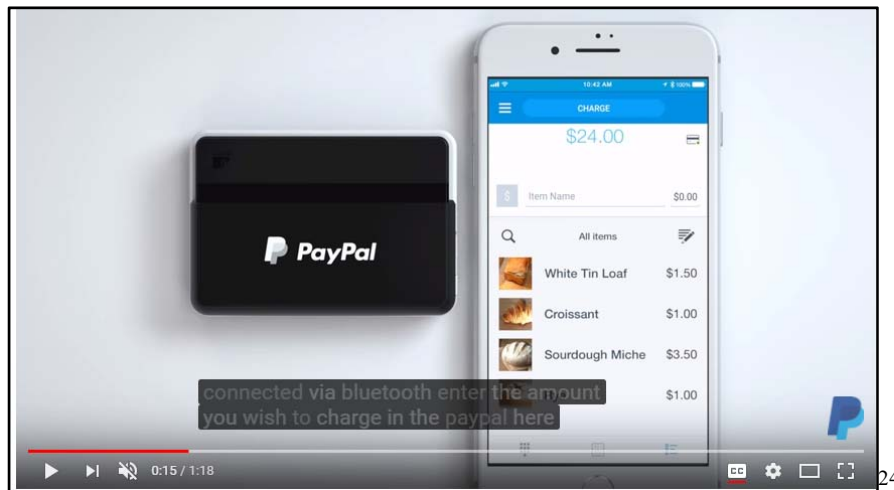
70.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

71.   On information and belief, the PayPal Chip and Swipe Reader's memory stores

program code to be executed by the PayPal Chip and Swipe Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is

configured to cause a communication to be transmitted to a communications network to process

the transaction:

72.   On information and belief, the PayPal Chip and Swipe Reader's memory also

stores program code to be executed by the PayPal Chip and Swipe Reader's processor in

response to a communication resulting from user interaction with the PayPal Here App's user

interface that is configured to cause a communication to be transmitted to a communications

network to download a firmware update:

73.   On information and belief, the PayPal Chip and Swipe Reader is configured to

effect the terminal's display of processing activity of program code stored on the PayPal Chip

and Swipe Reader's memory (for example, to indicate successful pairing of the PayPal Chip and

Swipe Reader to the terminal, to display payment processing progress details, to provide

payment processing confirmation, or to display firmware update details).

74.   For example, the PayPal Chip and Swipe Reader is configured to effect the

display of the terminal running the PayPal Here App to indicate that a transaction has been

completed:
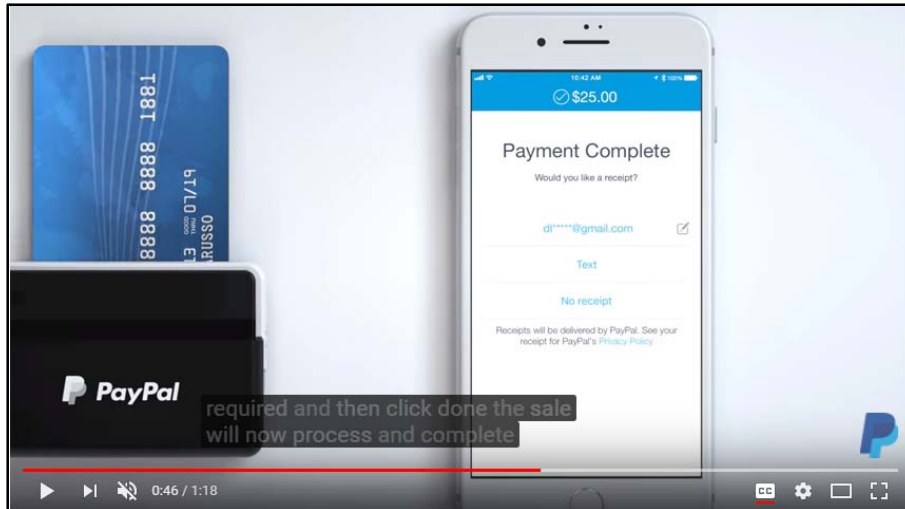
75.   The PayPal Chip and Swipe Reader is also configured to effect the display of the

terminal running the PayPal Here App to indicate that the firmware has been updated

successfully:
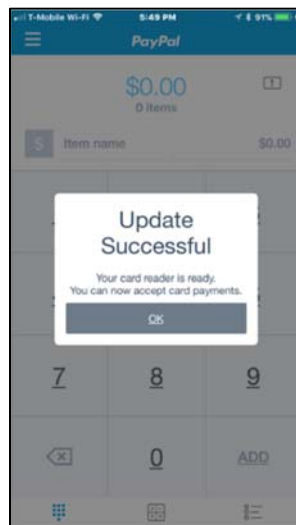
76.   The PayPal Chip and Swipe Reader is configured to communicate with the

terminal running the PayPal Here App or a POS Partner App, and to communicate through the

terminal's network interface to a network server (for example, for securely processing credit card

or contactless payment transactions or firmware updates).

27

77.   **Direct Infringement: PayPal Chip and Tap Reader**.

The PayPal Chip and Tap Reader is a portable device that allows users to "get paid on-the-go" and "start accepting payments where your business takes you":
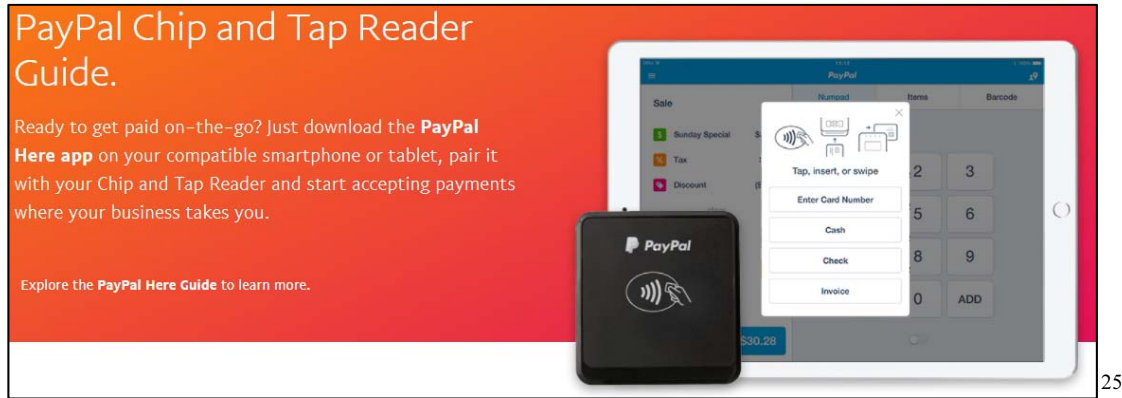
78.   The PayPal Chip and Tap Reader contains a Kinetis MK21FX512VMC12 microprocessor or its equivalent:
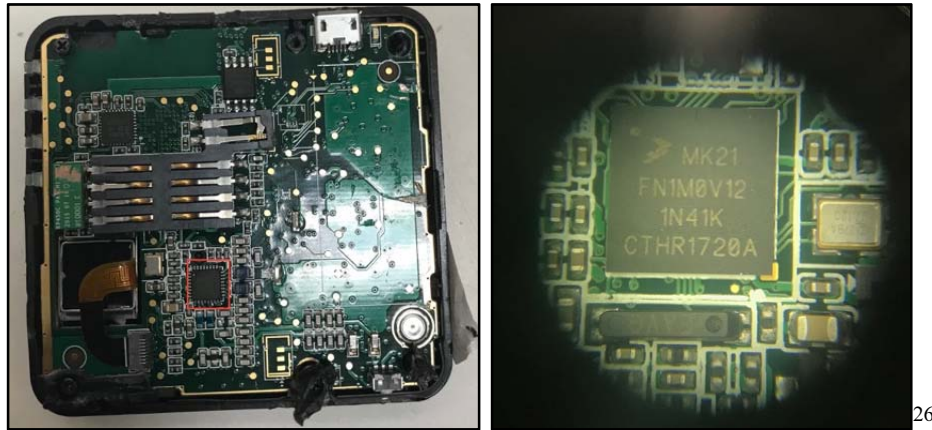
79.   The PayPal Chip and Tap Reader contains memory, including FLASH and SRAM memory integrated into a Kinetis MK21FX512VMC12 microprocessor, or its equivalent.

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[25]   PayPal Chip and Tap Reader Guide, available at https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-and-tap-reader (the "PayPal Chip and Tap Reader Guide Website").

[26]   Unless otherwise noted, all pictures of the internal components of the PayPal Chip and Tap Reader were taken of a PayPal Chip and Tap Reader with the plastic covering removed.

80.   The PayPal Chip and Tap Reader contains a Bluetooth communications interface configured to enable the transmission of communications between the PayPal Chip and Tap Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, and a network interface and that contains the PayPal Here App or a POS Partner App). The PayPal Chip and Tap Reader uses Bluetooth to "pair" with the terminal:

81.   On information and belief, the PayPal Chip and Tap Reader's memory stores program code that is configured to cause an interactive user interface to be presented on the terminal's display (for example, to indicate that the PayPal Chip and Tap Reader has been paired with the terminal, or to display a message that the PayPal Chip and Tap Reader requires an update), which the user can interact with (for example, to initiate a credit card transaction, or to initiate a firmware update).

82.   For example, the PayPal Here App presents a message when a PayPal Chip and Tap Reader has been connected and is available for transactions:

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[27]   *See* PayPal Chip and Tap Reader Guide Website.

28

83.   Also, if a firmware update is necessary, the PayPal Chip and Tap Reader presents
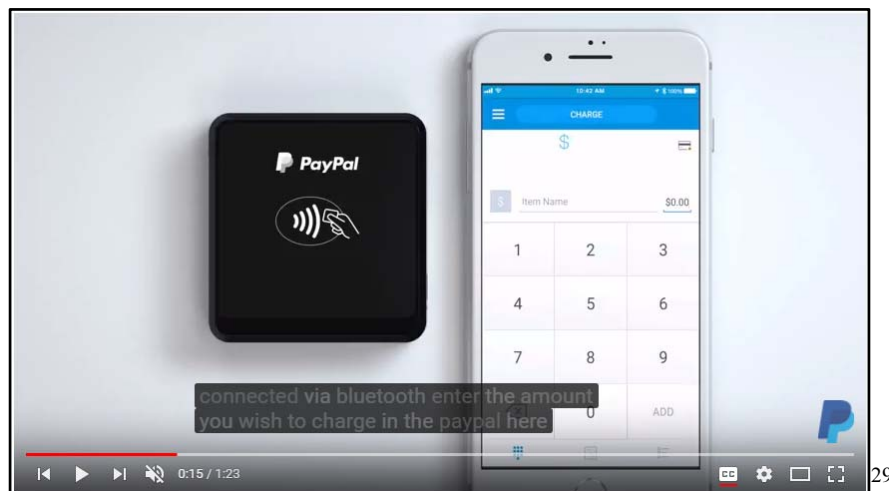
a message that a firmware update is required:
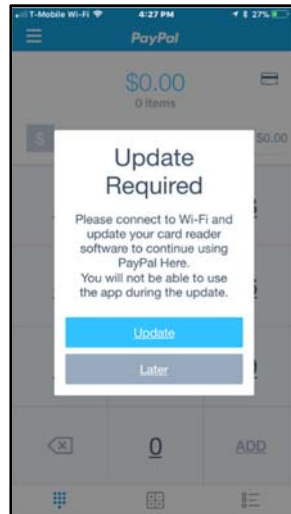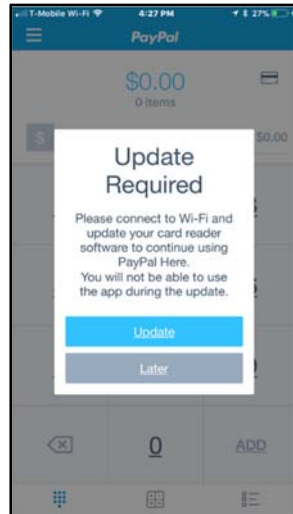

84.   Further, on information and belief, the PayPal Chip and Tap Reader's memory

stores program code that is configured to enable the PayPal Chip and Tap Reader to receive

communications resulting from user interaction with the PayPal Here App or POS Partner App's

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28   Unless otherwise noted, all screen captures of the PayPal Here App in use with the PayPal
Chip and Tap Reader were taken on an iPhone 7 Plus running the PayPal Here App.

user interface displayed on the terminal and to cause a communication to be sent to a network

server through the terminal's network interface (for example, program code to enable the PayPal

Chip and Tap Reader to receive communications and to cause communications to be sent via

Bluetooth, in connection with the processing of payments and/or firmware updates).

85.   On information and belief, the PayPal Chip and Tap Reader's memory also stores

program code to be executed by the PayPal Chip and Tap Reader's processor in response to a

communication resulting from user interaction with a user interface on the terminal that is

configured to cause a communication to be sent to a network server through the terminal's

network interface (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App, or to

request firmware updates).

86.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:

---

29   Unless otherwise noted, all screen captures of PayPal's instructional videos for the PayPal
Chip and Tap Reader were captured from https://youtu.be/CvuJmLDBvbI, last visited Mar. 23,
2018, also available from https://www.youtube.com/user/PayPal (PayPal's "verified" YouTube
channel).

87.   The PayPal Here App's user interface also allows the user to initiate a firmware update by pressing the "update" button:
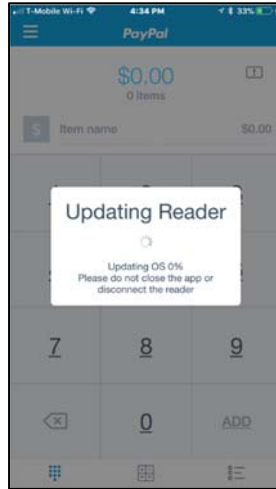

88.   On information and belief, the PayPal Chip and Tap Reader's memory stores program code to be executed by the PayPal Chip and Tap Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network to process the transaction:

89.   On information and belief, the PayPal Chip and Tap Reader's memory also stores program code to be executed by the PayPal Chip and Tap Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is

configured to cause a communication to be transmitted to a communications network to
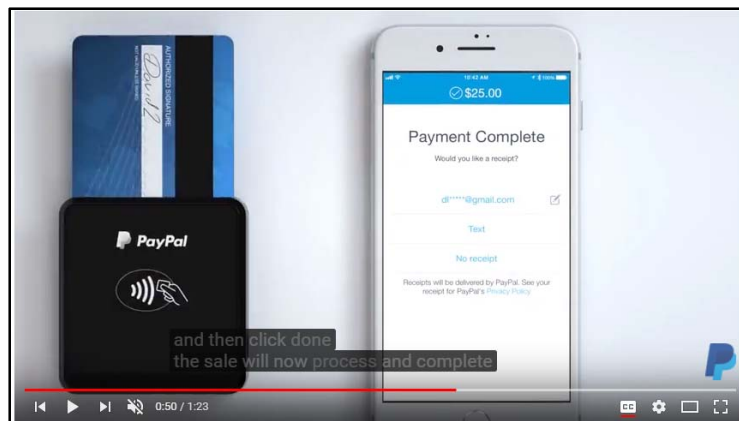
download a firmware update:

90.   On information and belief, the PayPal Chip and Tap Reader is configured to effect

the terminal's display of processing activity of program code stored on the PayPal Chip and Tap

Reader's memory (for example, to indicate successful pairing of the PayPal Chip and Tap

Reader to the terminal, to display payment processing progress details, to provide payment

processing confirmation, or to display firmware update details).

91.   For example, the PayPal Chip and Tap Reader is configured to effect the display

of the terminal running the PayPal Here App to indicate that the transaction has been completed:
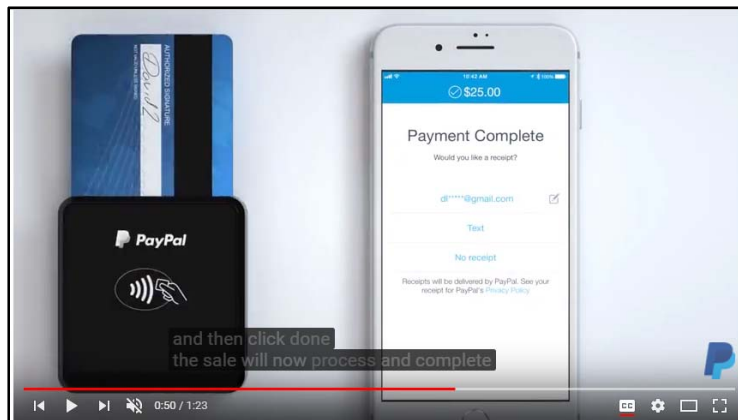
92.   The PayPal Chip and Tap Reader is also configured to effect the display of the

terminal running the PayPal Here App to indicate that the firmware has been updated

successfully:
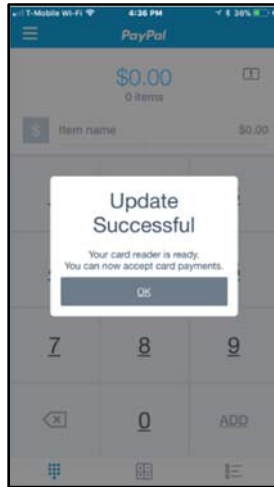
93.   The PayPal Chip and Tap Reader is configured to communicate with the terminal

running the PayPal Here App or a POS Partner App on the terminal and to communicate through

the terminal's network interface to a network server (for example, for securely processing credit

card or contactless payment transactions, or firmware updates).

94.   By infringing the '047 Patent, PayPal has caused and will continue to cause

Plaintiff IOENGINE to suffer damages in an amount to be determined at trial *i.e.* in an amount

that cannot be less than would constitute a reasonable royalty for the use of the patented

technology, together with pre-judgment and post-judgment interest thereon.

95.   IOENGINE has no adequate remedy at law against PayPal's acts of infringement,

and unless PayPal is permanently enjoined from infringing the '047 Patent, IOENGINE will

suffer irreparable harm.

96.   To the extent that PayPal has continued or continues to make, have made, use,

import, sell, or offer for sale products or services that infringe the '047 Patent following its

awareness of the '047 Patent, PayPal's infringement is willful and entitles IOENGINE to an

award of enhanced damages pursuant to 35 U.S.C. § 284 and attorneys' fees pursuant to 35

U.S.C. § 285.

SECOND COUNT FOR RELIEF
(INDIRECT INFRINGEMENT OF THE '047 PATENT)

97.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding

paragraphs as if fully set forth herein, including but not limited to paragraphs 23 to 96.

98.   On information and belief, PayPal has infringed and continues to infringe

indirectly by way of inducement and contributory infringement, literally and/or under the

doctrine of equivalents, in violation of 35 U.S.C. § 271, one or more claims of the '047 Patent by

performing, without authority, one or more of the following acts: making, having made, using,

importing, selling, and offering for sale in the United States one or more products or services that

embody the invention claimed in the '047 Patent, including but not limited to the PayPal

Infringing Products, and encouraging and instructing its customers, Point of Sale Partners, and

third parties to make and use the PayPal Infringing Products in a manner that infringes the '047

Patent. Since at least after receiving notice of this Complaint, Defendant has knowingly

contributed to the infringement of and induced infringement of, and continues to knowingly

contribute to the infringement of and induce infringement of, one or more claims of the '047

Patent with specific intent that the PayPal Infringing Products be used by its customers, Point of

Sale Partners, and third parties to directly infringe the '047 Patent, which products constitute a

material part of the invention and are not staple articles or commodities of commerce suitable for

substantial non-infringing use.

99.   Defendant instructs and encourages its customers, Point of Sale Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at least Claim 1 of the '047 Patent.

100.   For example, Defendant provides software development kits that allow, instruct, and encourage customers, Point of Sale Partners, and third parties to "create fully customized, branded apps that enable credit or debit card payments in-store using PayPal card readers."[30]

101.   Defendant further provides information and technical support on its website (*available at* www.paypal.com; *see also* https://www.paypal.com/us/webapps/mpp/credit-card-reader) that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

102.   Defendant further provides information and technical support on third-party platforms (*e.g.*, https://www.youtube.com/user/PayPal), including videos, demonstrations, and other information, that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

103.   PayPal also instructs and encourages the use of the PayPal Infringing Products in an infringing manner by directing users to the videos on PayPal's YouTube Channel (*e.g.*, https://www.youtube.com/user/PayPal).[31]

104.   In each case, the information and materials provided by PayPal contain detailed descriptions and instructions for using and implementing the functionality claimed in at least

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[30]   *See, e.g.*, https://developer.paypal.com/docs/integration/paypal-here/.

[31]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-card-reader (directing users to "[w]atch our video to learn more about pairing devices," and providing a link to the video entitled "How to Setup Chip Card Reader on Mobile or Tablet (PayPal Here)" on PayPal's YouTube channel).

Claim 1 of the '047 Patent including, at least, card reader device setup, processing chip card ("EMV") card payments, processing magnetic stripe card payments, processing contactless payments, processing refunds, and processing firmware updates.

105.   Defendant additionally instructs and encourages its customers, Point of Sale Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at least Claim 1 of the '047 Patent by instructing and encouraging its customers and third-parties to use the PayPal Infringing Products with PayPal's Point of Sale Partners.

THIRD COUNT FOR RELIEF
(DIRECT INFRINGEMENT OF THE '969 PATENT)

106.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding paragraphs as if fully set forth herein.

107.   The '969 Patent is presumed valid and PayPal has had actual knowledge of the '969 Patent at least as early as the filing of this Complaint.

108.   PayPal is not licensed under the '969 Patent and has no other right or permission to practice the invention embodied therein.

109.   On information and belief, PayPal has infringed and continues to infringe, directly (alone or jointly), literally, and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, one or more claims of the '969 Patent by performing, without authority, one or more of the following acts: making, having made, using, importing, selling, and offering for sale in the United States one or more products or services that embody the invention claimed in the '969 Patent, including but not limited to the PayPal Infringing Products. Since at least after receiving notice of this Complaint, Defendant has knowingly infringed, and continues to infringe, one or more claims of the '969 Patent by making, having made, using, importing, selling, and offering for sale in the United States the PayPal Infringing Products, which products constitute a material

part of the invention and are not staple articles or commodities of commerce suitable for

substantial non-infringing use.

110.   For example, the PayPal Infringing Products embody the patented invention of the

'969 Patent and infringe at least Claim 2 of the '969 patent because each of PayPal's card reader

products for mobile payments is:

> "A portable device configured to communicate with a terminal comprising a processor, an input component, an output component, a network communication interface, and a memory configured to store executable program code, including first program code which, when executed by the terminal processor, is configured to present an interactive user interface on the terminal output component, and second program code which, when executed by the terminal processor, is configured to provide a communications node on the terminal to facilitate communications to the portable device and to a communications network node through the terminal network communication interface, the portable device comprising:
>
> (a) an external communication interface configured to enable the transmission of communications between the portable device and the terminal;
>
> (b) a processor; and
>
> (c) a memory having executable program code stored thereon, including:
>
> (1) third program code which, when executed by the portable device processor, is configured to provide a communications node on the portable device to coordinate with the communications node on the terminal and establish a communications link between the portable device and the terminal, and facilitate communications to the terminal and to a communications network node through the terminal network communication interface; and
>
> (2) fourth program code which is configured to be executed by the portable device processor in response to a communication received by the portable device resulting from user interaction with the interactive user interface;
>
> wherein the portable device is configured to facilitate communications through the communication node on the terminal

and the terminal network interface to a communications network node … [32]

wherein the fourth program code which, when executed by the portable device processor, is configured to cause a communication to be transmitted to the communication network node."[33]
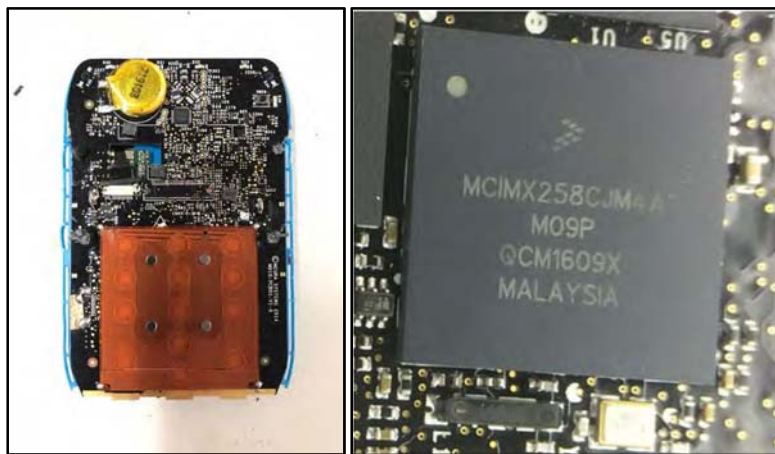
111.   **Direct Infringement: PayPal Chip Card Reader.**

The PayPal Chip Card Reader is a portable device that offers a "secure way to process chip card, contactless, and swipe payments on-the-go or in your store":
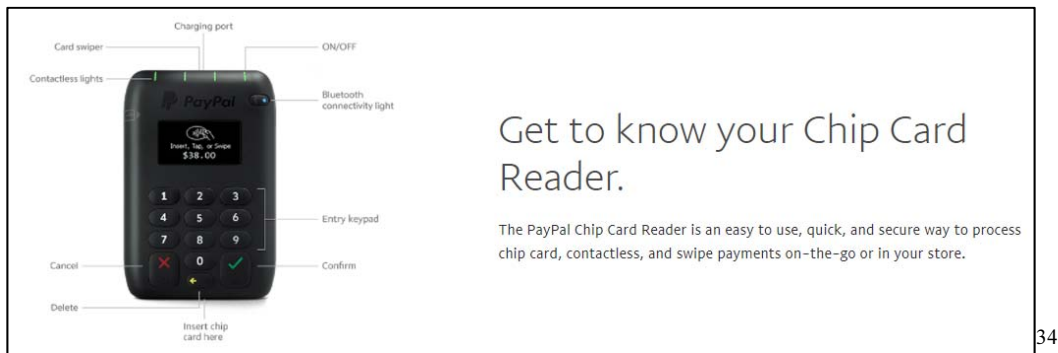
112.   The PayPal Chip Card Reader contains a Freescale MCIMX258CJM4A M09P ARM core processor or its equivalent:

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32   '969 Patent, Claim 1.

33   *Id.* at Claim 2.

34   PayPal Chip Card Reader Guide Website.

113.   The Freescale MCIMX258CJM4A M09P ARM core processor contains 128 KB

SRAM, 32 KB ROM, and/or 16 KB data cache memory or its equivalent.

114.   The PayPal Chip Card Reader contains a 2GB Micron Flash memory module with

FBGA code NQ282, corresponding to part number MT29F2G08ABBEAHC-IT:E and/or a

512MB SDRAM memory module with FPGA Code D9LQQ, corresponding to part number

MT46H32M16LFBF-5 IT:C, or its equivalent:
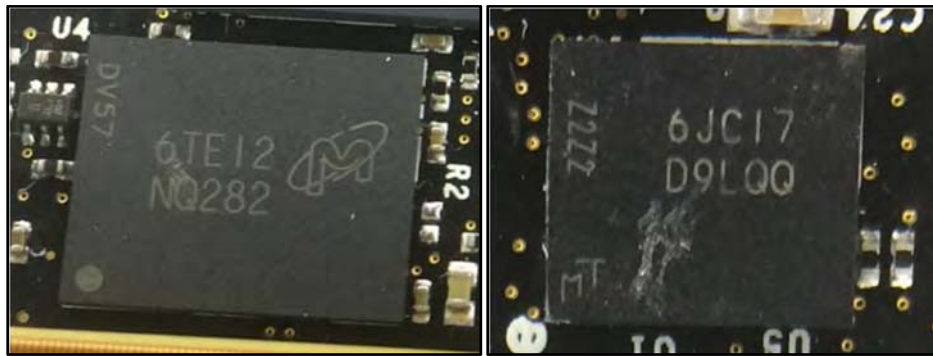
115.   The PayPal Chip Card Reader contains a Bluetooth communication interface

configured to enable the transmission of communications between the PayPal Chip Card Reader

and a terminal (for example, an Apple iOS or Android device storing and having a processor, an

input component such as a touchscreen sensor, an output component such as a display, a network

communications interface, and a memory that contains the PayPal Here App or a POS Partner

App). The PayPal Chip Card Reader uses Bluetooth to "pair" with the terminal:

Pair your device to your card reader in 3 steps:

1   Go to your mobile device Settings and turn on Bluetooth®. You'll see a list of available Bluetooth devices.

2   Turn on the card reader. The on-screen Bluetooth icon will start to blink rapidly, indicating that it's ready to connect.

3   Select the card reader from the list of available Bluetooth devices. A steady Bluetooth light on the card reader will indicate that it's successfully paired.

From now on, your card reader will auto-connect to the app whenever you turn it on. Watch our video to learn more about pairing devices.

[35]

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[35]   *See* PayPal Chip Card Reader Guide Website.

116.   On information and belief, the PayPal Here App or POS Partner App is designed to be stored on and run on a terminal and contains program code that is configured to present an interactive user interface on the terminal output component.

117.   For example, the PayPal Here App is program code designed to be stored on and run on a terminal and that is configured to present an interactive user interface on the terminal display:
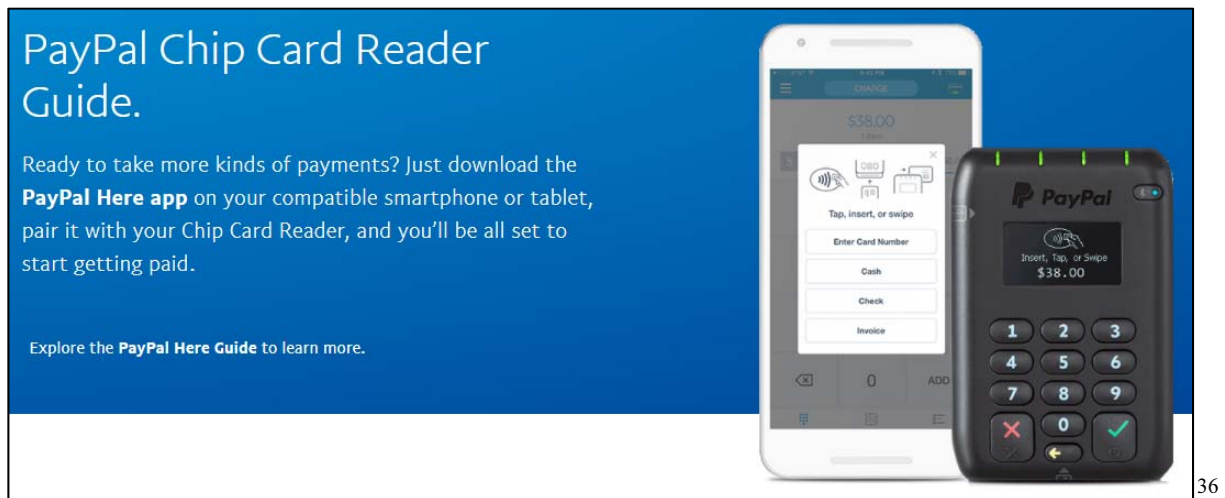

118.   The terminal running the PayPal Here App or POS Partner App runs program code that is configured to provide a communications node on the terminal to communicate over a Bluetooth connection to the PayPal Chip Card Reader and to facilitate communications with the PayPal Chip Card Reader and with a communications network node, such as PayPal's secure financial transaction servers, through the terminal's network communication interface.
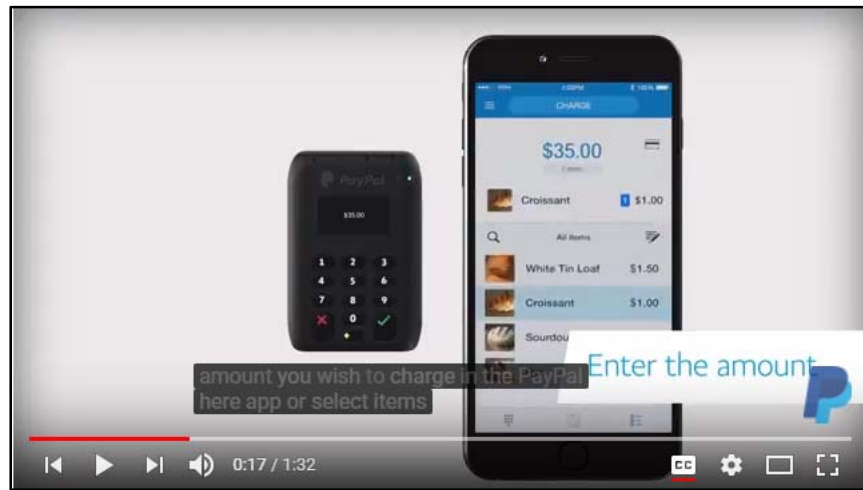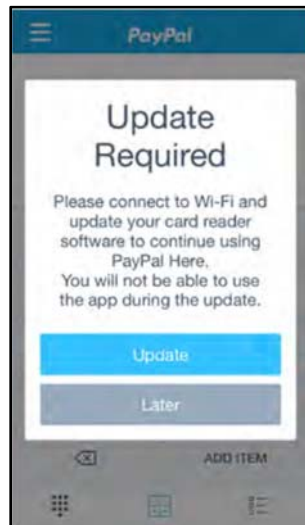
119.   Further, on information and belief, the PayPal Chip Card Reader's memory stores program code to be executed by the PayPal Chip Card Reader's processor or Bluetooth controller that is configured to provide a communications node and establish a communications link with

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36   *See* PayPal Chip Card Reader Guide Website.

the PayPal Here App or a POS Partner App running on a terminal, and to facilitate

communications between the PayPal Chip Card Reader and the terminal running the PayPal Here

App or a POS Partner App and with a communications network node, such as a network server,

through the terminal's network communication interface (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App, or to request firmware

updates).

120.   For example, on information and belief, the PayPal Chip Card Reader stores

program code to be executed by the PayPal Chip Card Reader's processor or by a Bluetooth

controller that is configured to make use of Bluetooth pairing of the PayPal Chip Card Reader to

the terminal:
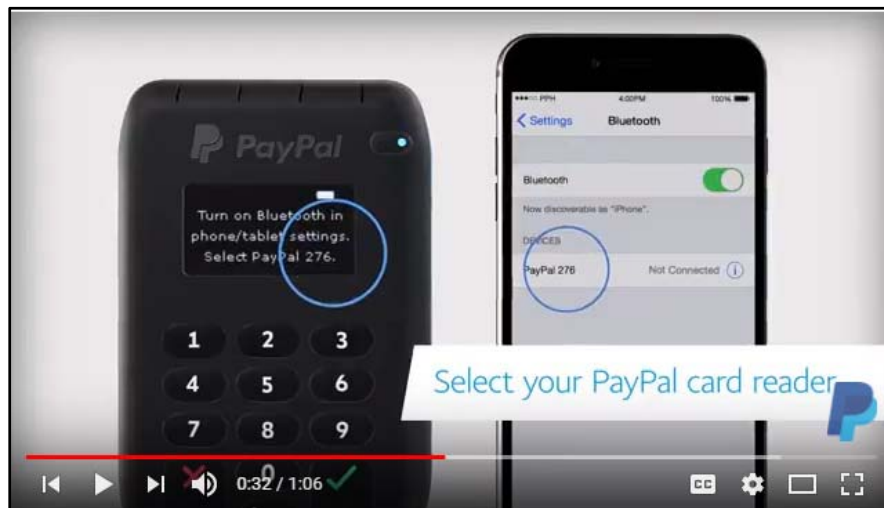
121.   Further, on information and belief, the PayPal Chip Card Reader's memory stores

program code to be executed by the PayPal Chip Card Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App or a POS Partner App's

interactive user interface that is configured to cause a communication to be sent to a network

server (for example, to cause a communication to be sent to PayPal's secure financial transaction

servers to process payments using the PayPal Here App or a POS Partner App, or to request

firmware updates).

122.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:
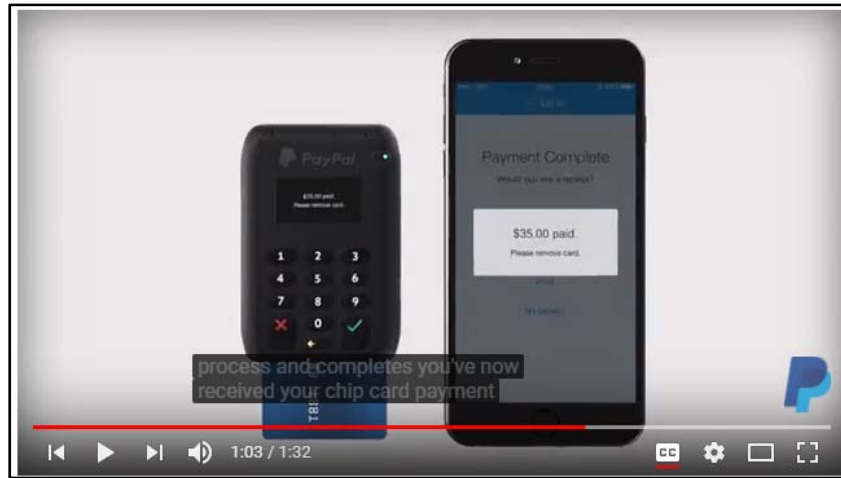

123.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

124.   On information and belief, the PayPal Chip Card Reader's memory stores

program code to be executed by the PayPal Chip Card Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is

configured to cause a communication to be transmitted to a communications network node to process the transaction:

125.   On information and belief, the PayPal Chip Card Reader's memory also stores program code to be executed by the PayPal Chip Card Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network node to download a firmware update:
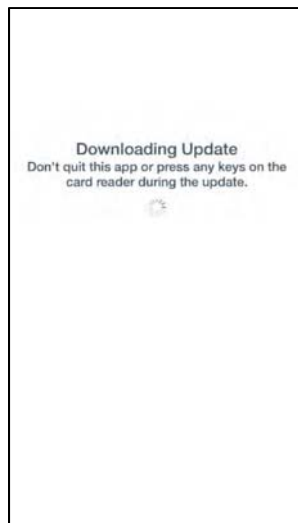
126.   On information and belief, the PayPal Chip Card Reader is configured to facilitate communications through the communications node on the terminal running the PayPal Here App

or a POS Partner App and through the terminal's network interface to a network server for

processing (for example, to facilitate communication of data to the terminal and to PayPal's

secure financial transaction servers to process payments using the PayPal Here App or a POS

Partner App, or to request firmware updates).

127.   For example, the PayPal Chip Card Reader facilitates communication of payment

data to the terminal and to PayPal's secure financial transaction servers to process payments:

128.   **Direct Infringement: PayPal Mobile Card Reader.**

The PayPal Mobile Card Reader is a portable device that "fits in your pocket and works with

compatible mobile devices to help get you paid on-the-go":
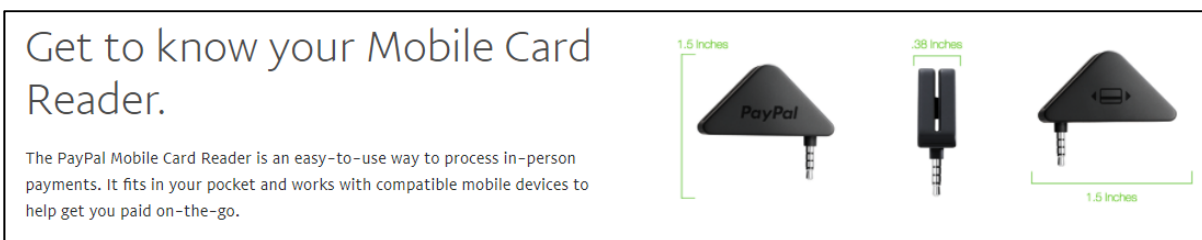
[37]

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[37]   *See* PayPal Mobile Card Reader Guide Website.

129.   The PayPal Mobile Card Reader contains a EFM32 TG110F32 ARM Cortex-M3

processor or its equivalent:
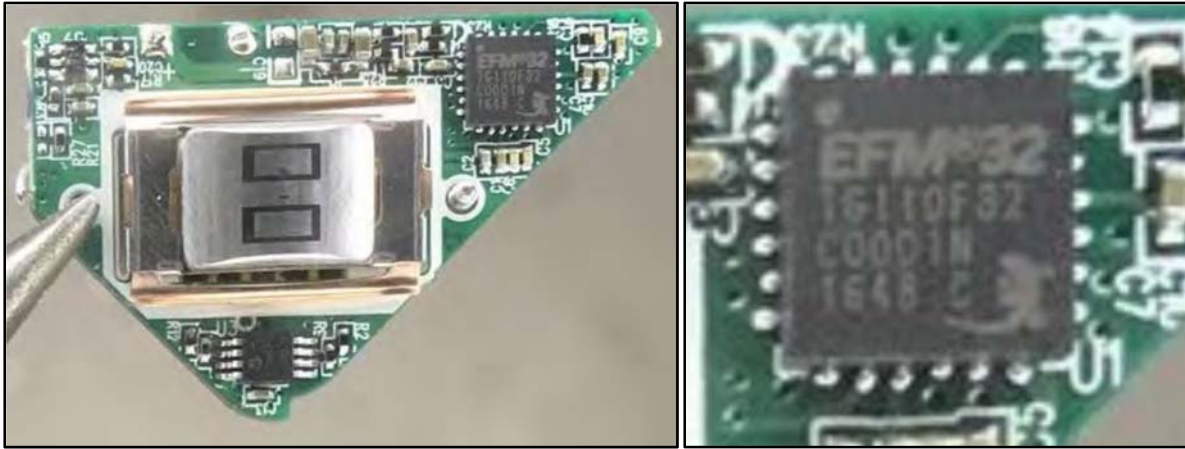
130.   The PayPal Mobile Card Reader contains memory, including at least up to 32 KB

Flash memory and up to 4KB RAM memory integrated into an EFM32 TG110F32 ARM Cortex-

M3 processor, or its equivalent.

131.   The PayPal Mobile Card Reader includes an audio jack communications

interface (*e.g.*, an AHJ connector) configured to enable the transmission of communications

between the PayPal Mobile Card Reader and a terminal (for example, an Apple iOS or Android

device having a processor, an input component such as a touchscreen sensor, an output

component such as a display, a network communications interface, and a memory that contains

the PayPal Here App or a POS Partner App).

132.   On information and belief, the PayPal Here App or POS Partner App is designed

to be stored on and run on a terminal and contains program code that is configured to present an

interactive user interface on the terminal output component.

133.   For example, the PayPal Here App is program code designed to be stored on and run on a terminal and that is configured to present an interactive user interface on the terminal display:
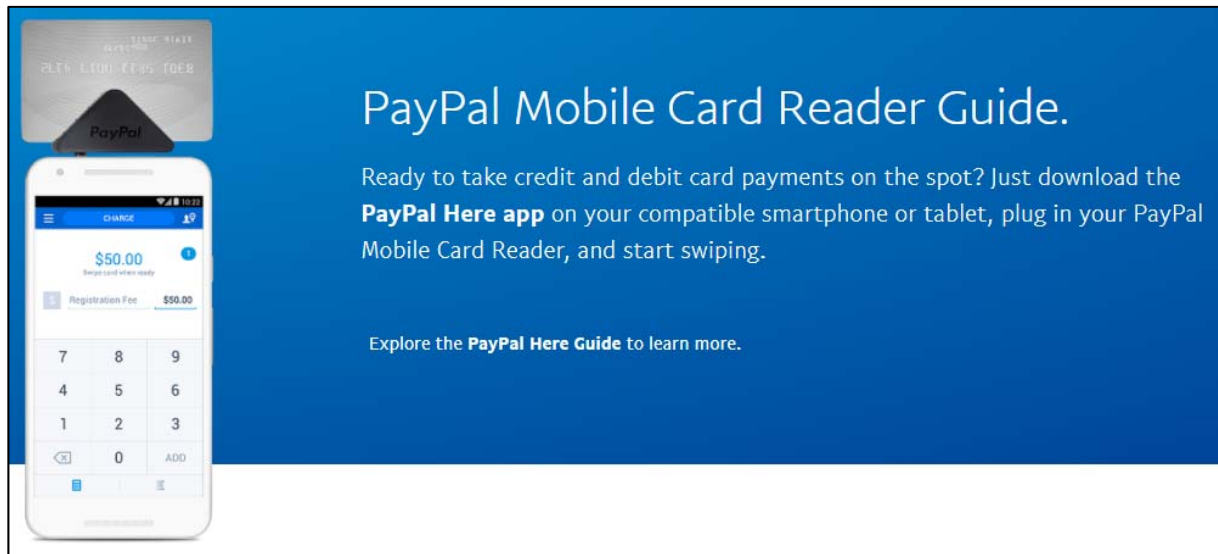
134.   The terminal running the PayPal Here App or POS Partner App runs program code that is configured to provide a communications node on the terminal to communicate over an AHJ interface and to facilitate communications with the PayPal Mobile Card Reader and with a communications network node, such as PayPal's secure financial transaction servers, through the terminal's network communication interface.

135.   Further, on information and belief, the PayPal Mobile Card Reader's memory stores program code to be executed by the PayPal Mobile Card Reader processor that is configured to provide a communications node and establish a communications link (*e.g.*, using audio-data communications sent over audio pins (pins 3 and 4) of the AHJ interface) with the PayPal Here App or a POS Partner App running on a terminal, and to facilitate communications

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[38]   *See* PayPal Mobile Card Reader Guide Website.

between the PayPal Mobile Card Reader and the terminal running the PayPal Here App or a POS

Partner App and with a communications network node, such as a network server, through the

terminal's network communication interface (for example, to facilitate communication of data to

the terminal and to PayPal's secure financial transaction servers to process payments using the

PayPal Here App or a POS Partner App).

136.   For example, on information and belief, the PayPal Mobile Card Reader stores

program code to be executed by the PayPal Mobile Card Reader's processor that is configured to

allow for communications with the terminal over the audio pins of an AHJ interface:

137.   Further, on information and belief, the PayPal Mobile Card Reader's memory

stores program code to be executed by the PayPal Mobile Card Reader's processor in response to

a communication resulting from user interaction with the PayPal Here App or a POS Partner

App's interactive user interface that is configured to cause a communication to be sent to a

network server (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App).

138.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:
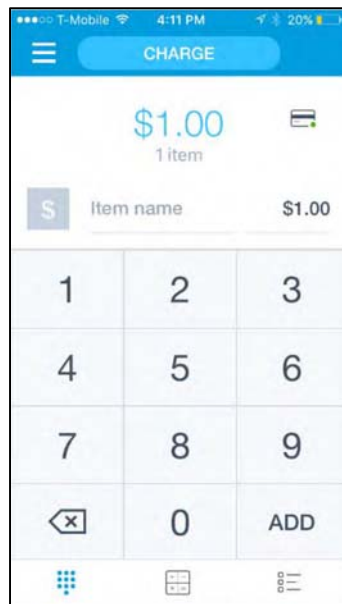
139.   On information and belief, the PayPal Mobile Card Reader's memory stores

program code to be executed by the PayPal Mobile Card Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is

configured to cause a communication to be transmitted to a communications network node to

process the transaction.

140.   On information and belief, the PayPal Mobile Card Reader is configured to

facilitate communications through the communication node on the terminal running the PayPal

Here App or a POS Partner App and through the terminal's network interface to a network server

for processing (for example, to facilitate communication of data to the terminal and to PayPal's

secure financial transaction servers to process payments using the PayPal Here App or a POS

Partner App).

141.   For example, the PayPal Mobile Card Reader facilitates communication of

payment data to the terminal and to PayPal's secure financial transaction servers to process

payments:

142.   **Direct Infringement: PayPal Chip and Swipe Reader.**

The PayPal Chip and Swipe Reader is a portable device that allows users to "[g]et paid where

your business takes you":

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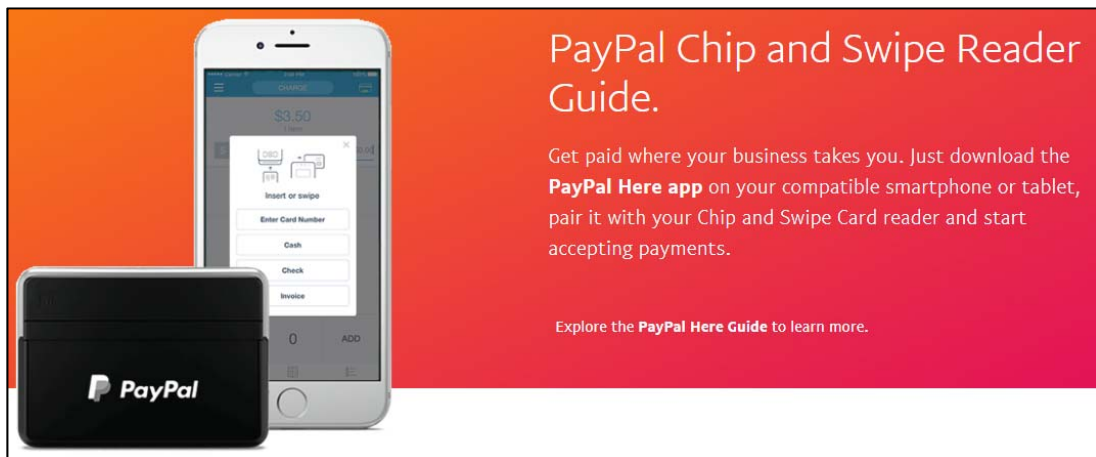
[39]   *See* PayPal Chip and Swipe Reader Guide Website.

143.   The PayPal Chip and Swipe Reader contains an ARM STM 32F103 Series microprocessor or its equivalent:
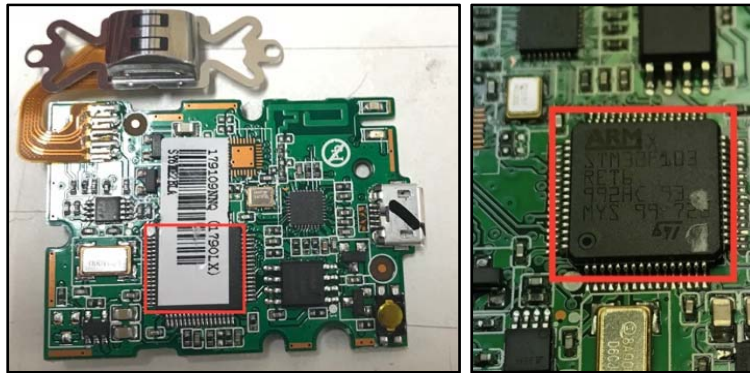
144.   The PayPal Chip and Swipe Reader contains memory, including 16 Kbytes to 1 Mbyte of Flash and 6K to 96K SRAM memory integrated into an ARM STM 32F103 Series microprocessor, or its equivalent.

145.   The PayPal Chip and Swipe Reader contains a Bluetooth communication interface configured to enable the transmission of communications between the PayPal Chip and Swipe Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, a network communications interface, and a memory that contains the PayPal Here App or a POS Partner App):

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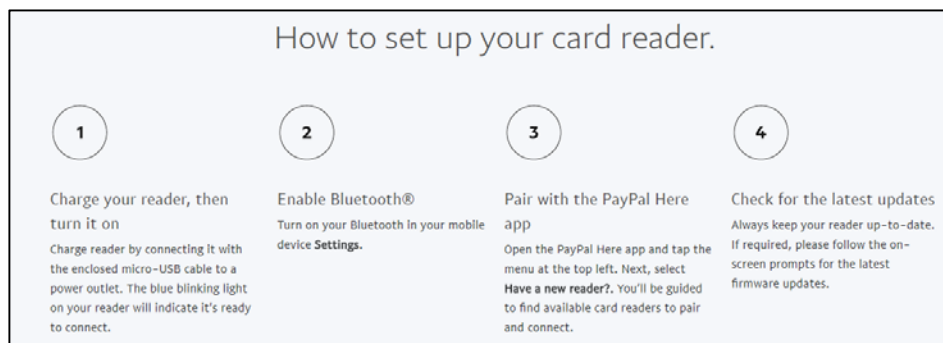
40   *See* PayPal Chip and Swipe Reader Guide Website.

146.   On information and belief, the PayPal Here App or POS Partner App is designed to be stored on and run on a terminal and contains program code that is configured to present an interactive user interface on the terminal output component.

147.   For example, the PayPal Here App is program code designed to be stored on and run on a terminal and that is configured to present an interactive user interface on the terminal display:
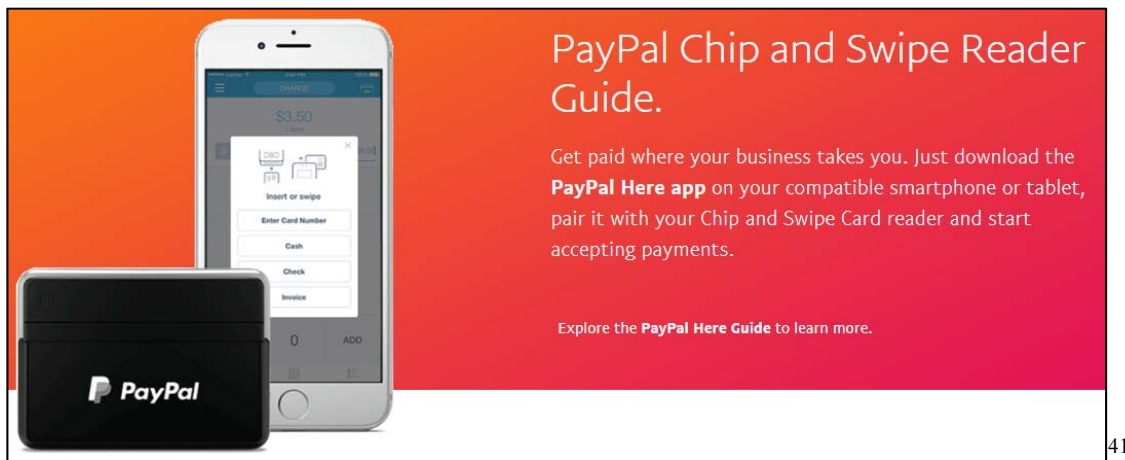

148.   The terminal running the PayPal Here App or POS Partner App runs program code that is configured to provide a communications node on the terminal to communicate over a Bluetooth connection to the PayPal Chip and Swipe Reader and to facilitate communications with the PayPal Chip and Swipe Reader and with a communications network node, such as PayPal's secure financial transaction servers, through the terminal's network communication interface.
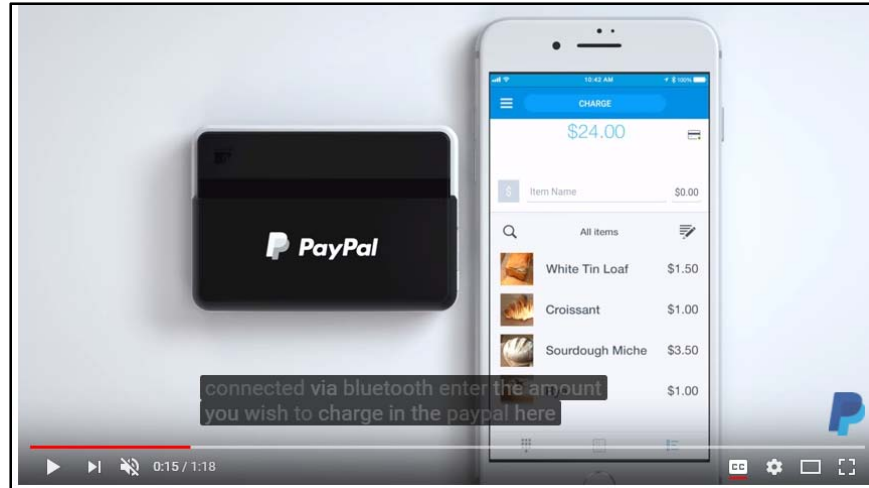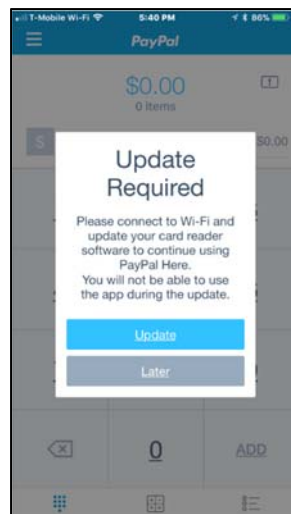
149.   Further, on information and belief, the PayPal Chip and Swipe Reader's memory stores program code to be executed by the PayPal Chip and Swipe Reader's processor or

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41   *See* PayPal Chip and Swipe Reader Guide Website.

Bluetooth controller that is configured to provide a communications node and establish a

communications link with the PayPal Here App or a POS Partner App running on a terminal, and

to facilitate communications between the PayPal Chip and Swipe Reader and the terminal

running the PayPal Here App or a POS Partner App and with a communications network node,

such as a network server, through the terminal's network communication interface (for example,

to facilitate communication of data to the terminal and to PayPal's secure financial transaction

servers to process payments using the PayPal Here App or a POS Partner App, or to request

firmware updates).

150.   For example, on information and belief, the PayPal Chip and Swipe Reader stores

program code to be executed by the PayPal Chip and Swipe Reader's processor or by a

Bluetooth controller that is configured to make use of Bluetooth pairing of the PayPal Chip and

Swipe Reader to the terminal:
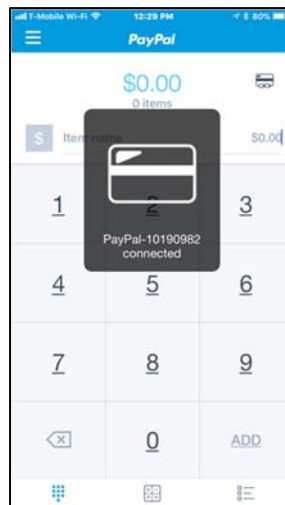
151.   Further, on information and belief, the PayPal Chip and Swipe Reader's memory

stores program code to be executed by the PayPal Chip and Swipe Reader's processor in

response to a communication resulting from user interaction with the PayPal Here App or a POS

Partner App's interactive user interface that is configured to cause a communication to be sent to

a network server (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App, or to

request firmware updates).

152.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:

153.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

154.   On information and belief, the PayPal Chip and Swipe Reader's memory stores

program code to be executed by the PayPal Chip and Swipe Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network node to process the transaction:
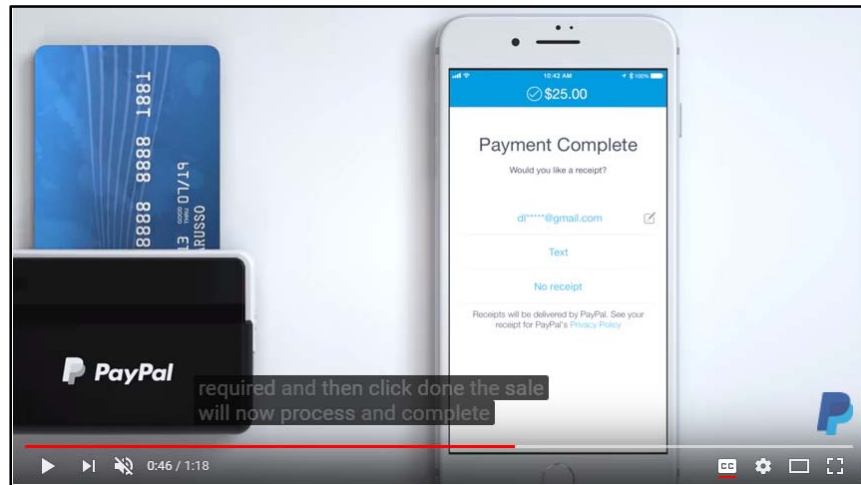

155.   On information and belief, the PayPal Chip and Swipe Reader's memory also stores program code to be executed by the PayPal Chip and Swipe Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network node to download a firmware update:
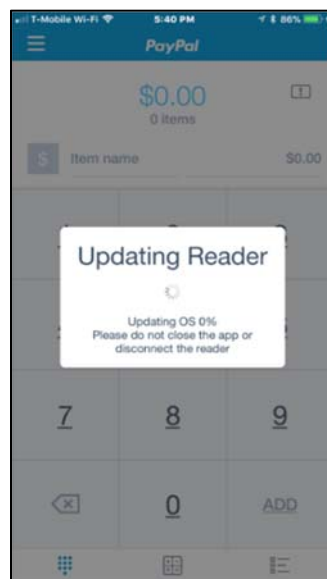
156.   On information and belief, the PayPal Chip and Swipe Reader is configured to facilitate communications through the communications node on the terminal running the PayPal Here App or a POS Partner App and through the terminal's network interface to a network server for processing (for example, to facilitate communication of data to the terminal and to PayPal's secure financial transaction servers to process payments using the PayPal Here App or a POS Partner App, or to request firmware updates).

157.   For example, the PayPal Chip and Swipe Reader facilitates communication of payment data to the terminal and to PayPal's secure financial transaction servers to process payments:
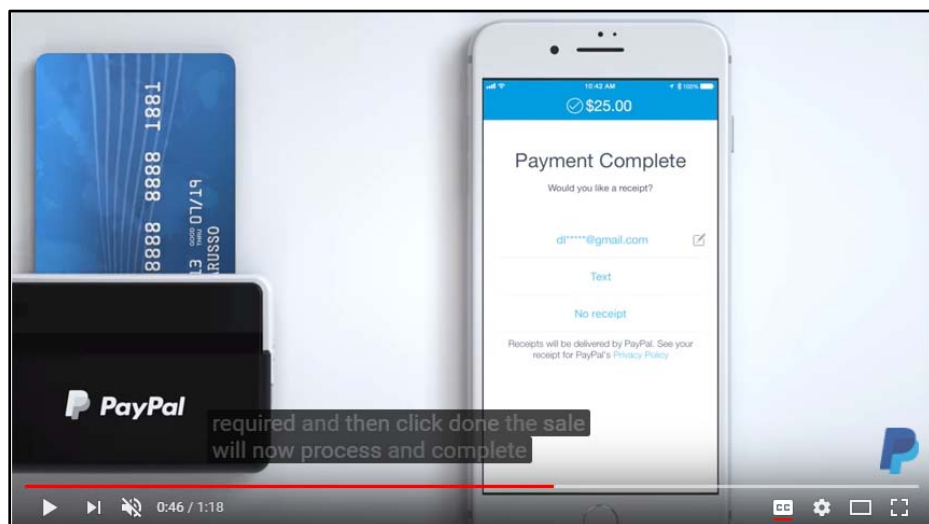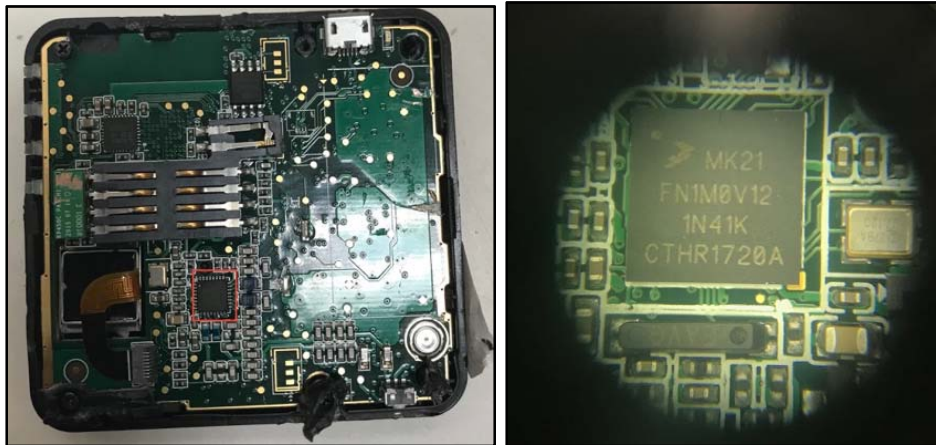
158.   **Direct Infringement: PayPal Chip and Tap Reader.**

The PayPal Chip and Tap Reader is a portable device that allows users to "get paid on-the-go" and "start accepting payments where your business takes you":
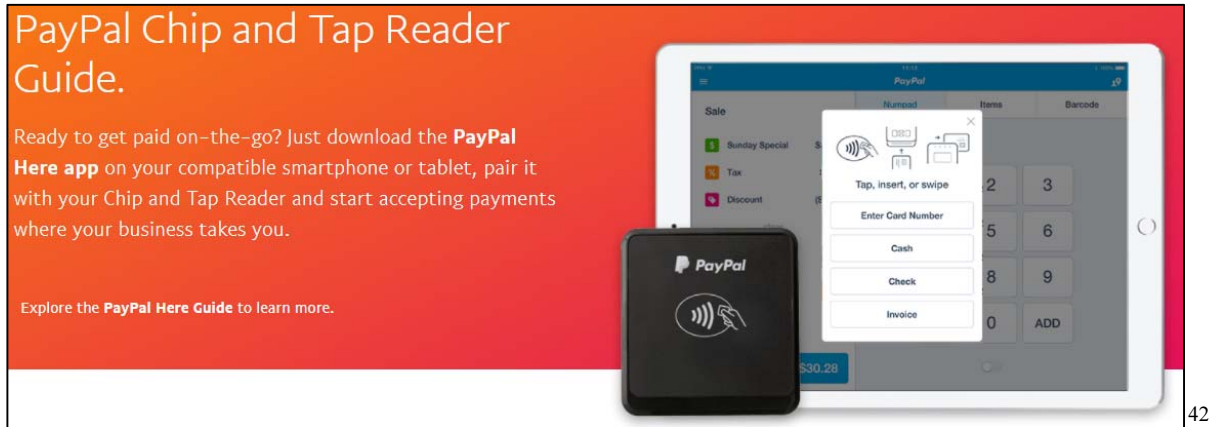

159.   The PayPal Chip and Tap Reader contains a Kinetis MK21FX512VMC12 microprocessor or its equivalent:

160.   The PayPal Chip and Tap Reader contains memory, including FLASH and SRAM memory integrated into a Kinetis MK21FX512VMC12 microprocessor, or its equivalent.

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42   *See* PayPal Chip and Tap Reader Guide Website.

161.   The PayPal Chip and Tap Reader contains a Bluetooth communication interface

configured to enable the transmission of communications between the PayPal Chip and Tap

Reader and a terminal (for example, an Apple iOS or Android device having a processor, an

input component such as a touchscreen sensor, an output component such as a display, a network

communications interface, and a memory that contains the PayPal Here App or a POS Partner

App). The PayPal Chip Card Reader uses Bluetooth to "pair" with the terminal:
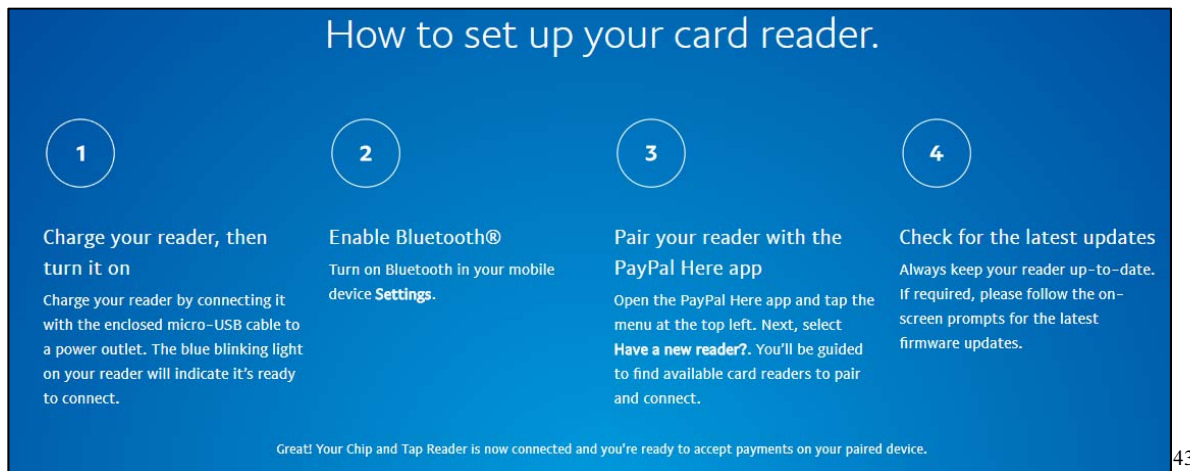

162.   On information and belief, the PayPal Here App or POS Partner App is designed

to be stored on and run on a terminal and contains program code that is configured to present an

interactive user interface on the terminal output component.

163.   For example, the PayPal Here App is program code designed to be stored on and

run on a terminal and that is configured to present an interactive user interface on the terminal

display:


[43]   *See* PayPal Chip and Tap Reader Guide Website.
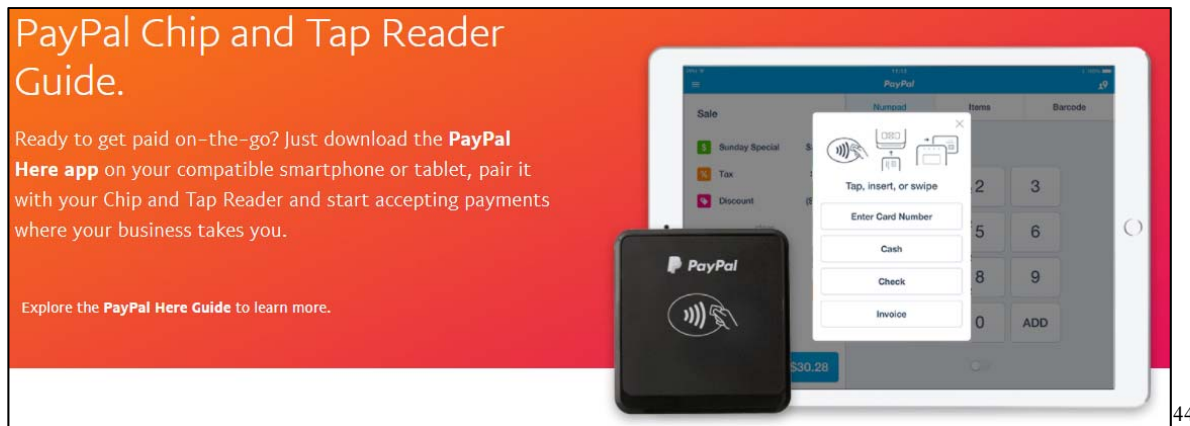
164.   The terminal running the PayPal Here App or POS Partner App runs program code that is configured to provide a communications node on the terminal to communicate over a Bluetooth connection to the PayPal Chip and Tap Reader and to facilitate communications with the PayPal Chip and Tap Reader and with a communications network node, such as PayPal's secure financial transaction servers, through the terminal's network communication interface.

165.   Further, on information and belief, the PayPal Chip and Tap Reader's memory stores program code to be executed by the PayPal Chip and Tap Reader's processor or Bluetooth Controller that is configured to provide a communications node and establish a communications link with the PayPal Here App or a POS Partner App running on a terminal, and to facilitate communications between the PayPal Chip and Tap Reader and the terminal running the PayPal Here App or a POS Partner App and with a communications network node, such as a network server, through the terminal's network communication interface (for example, to facilitate communication of data to the terminal and to PayPal's secure financial transaction servers to process payments using the PayPal Here App or a POS Partner App, or to request firmware updates).
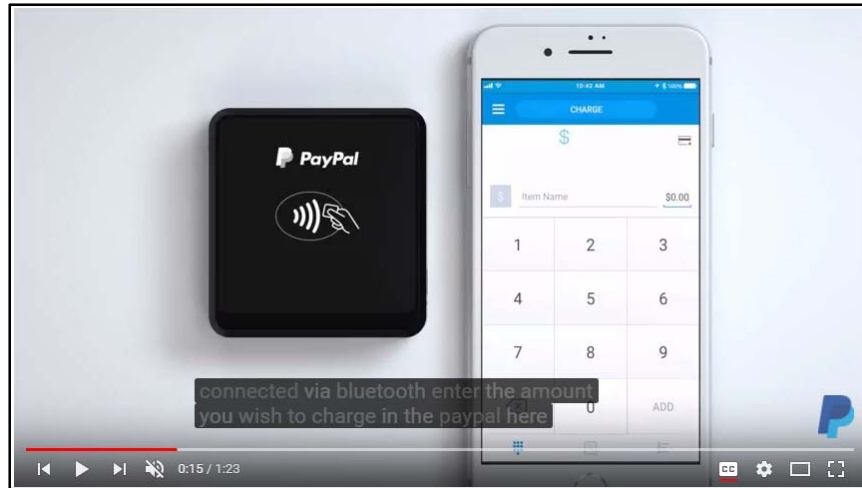
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44   *See* PayPal Chip and Tap Reader Guide Website.

166.   For example, on information and belief, the PayPal Chip and Tap Reader stores

program code to be executed by the PayPal Chip and Tap Reader's processor or by a Bluetooth

controller that is configured to make use of Bluetooth pairing of the PayPal Chip and Tap Reader
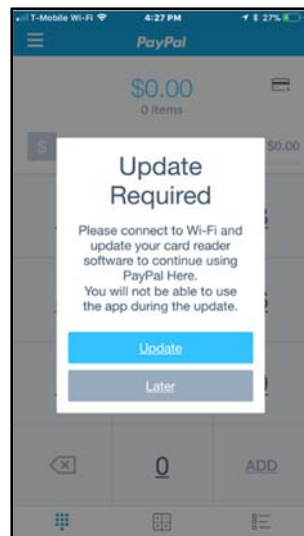
to the terminal:
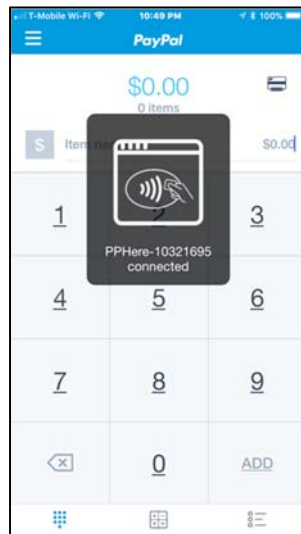
167.   Further, on information and belief, the PayPal Chip and Tap Reader's memory

stores program code to be executed by the PayPal Chip and Tap Reader's processor in response

to a communication resulting from user interaction with the PayPal Here App or a POS Partner

App's interactive user interface that is configured to cause a communication to be sent to a

network server (for example, to cause a communication to be sent to PayPal's secure financial

transaction servers to process payments using the PayPal Here App or a POS Partner App, or to

request firmware updates).

168.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:

169.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

170.   On information and belief, the PayPal Chip and Tap Reader's memory stores

program code to be executed by the PayPal Chip and Tap Reader's processor in response to a

communication resulting from user interaction with the PayPal Here App's user interface that is

configured to cause a communication to be transmitted to a communications network node to

process the transaction:
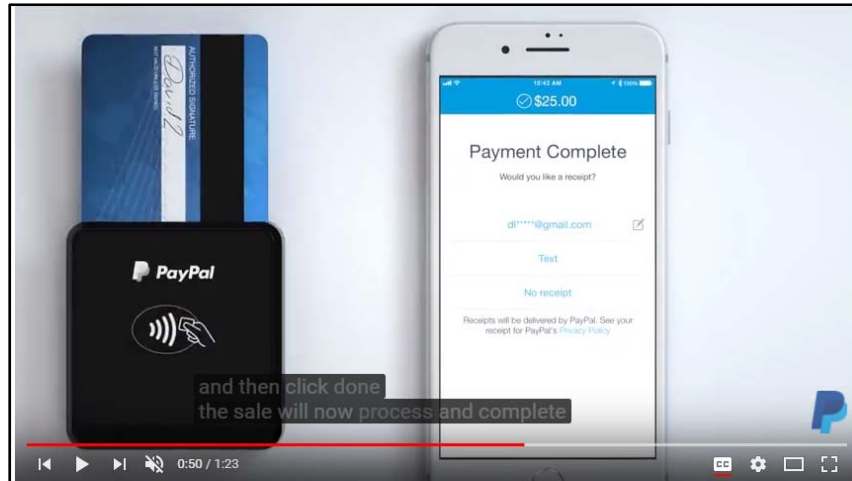
171.   On information and belief, the PayPal Chip and Tap Reader's memory also

stores program code to be executed by the PayPal Chip and Tap Reader's processor in response

to a communication resulting from user interaction with the PayPal Here App's user interface

that is configured to cause a communication to be transmitted to a communications network

node to download a firmware update:
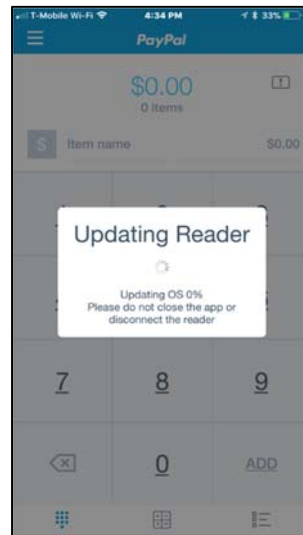
172.   On information and belief, the PayPal Chip and Tap Reader is configured to

facilitate communications through the communications node on the terminal running the PayPal

Here App or a POS Partner App and through the terminal's network interface to a network server

for processing (for example, to facilitate communication of data to the terminal and to PayPal's

secure financial transaction servers to process payments using the PayPal Here App or a POS

Partner App, or to request firmware updates).

173.   For example, the PayPal Chip and Tap Reader facilitates communication of

payment data to the terminal and to PayPal's secure financial transaction servers to process

payments:
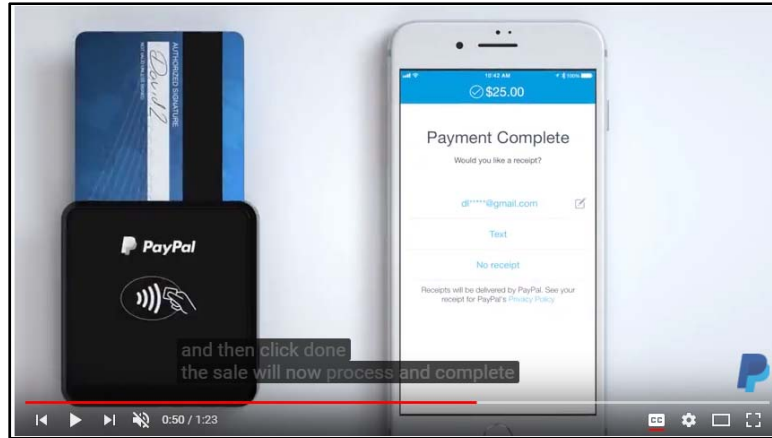
174.   By infringing the '969 Patent, PayPal has caused and will continue to cause

Plaintiff to suffer damages in an amount to be determined at trial *i.e.* in an amount that by law

cannot be less than would constitute a reasonable royalty for the use of the patented technology,

together with pre-judgment and post-judgment interest thereon.

175.   Plaintiff has no adequate remedy at law against PayPal's acts of infringement, and

unless PayPal is permanently enjoined from infringing the '969 Patent, Plaintiff will suffer

irreparable harm.

176.   To the extent that PayPal has continued or continues to make, have made, use,

import, sell, or offer for sale products or services that infringe the '969 Patent following its

awareness of the '969 Patent, PayPal's infringement is willful and entitles IOENGINE to an

award of enhanced damages pursuant to 35 U.S.C. § 284 and attorneys' fees pursuant to 35

U.S.C. § 285.

FOURTH COUNT FOR RELIEF
(INDIRECT INFRINGEMENT OF THE '969 PATENT)

177.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding paragraphs as if fully set forth herein, including but not limited to paragraphs 106 to 176.

178.   On information and belief, PayPal has infringed and continues to infringe indirectly by way of inducement and contributory infringement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, one or more claims of the '969 Patent by performing, without authority, one or more of the following acts: making, having made, using, importing, selling, and offering for sale in the United States one or more products or services that embody the invention claimed in the '969 Patent, including but not limited to the PayPal Infringing Products, and encouraging and instructing its customers, Point of Sale Partners, and third parties to make and use the PayPal Infringing Products in a manner that infringes the '969 Patent. Since at least after receiving notice of this Complaint, Defendant has knowingly contributed to the infringement of and induced infringement of, and continues to knowingly contribute to the infringement of and induce infringement of, one or more claims of the '969 Patent with specific intent that the PayPal Infringing Products be used by its customers, Point of Sale Partners, and third parties to directly infringe the '969 Patent, which products constitute a material part of the invention and are not staple articles or commodities of commerce suitable for substantial non-infringing use.

179.   Defendant instructs and encourages its customers, Point of Sale Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at least Claim 2 of the '969 Patent.

180.   For example, Defendant provides software development kits that allow, instruct, and encourage customers, Point of Sale Partners, and third parties to "create fully customized, branded apps that enable credit or debit card payments in-store using PayPal card readers."[45]

181.   Defendant further provides information and technical support on its website (*available at* www.paypal.com; *see also* https://www.paypal.com/us/webapps/mpp/credit-card-reader) that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

182.   Defendant further provides information and technical support on third-party platforms (*e.g.*, https://www.youtube.com/user/PayPal), including videos, demonstrations, and other information, that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

183.   PayPal also instructs and encourages the use of the PayPal Infringing Products in an infringing manner by directing users to the videos on PayPal's YouTube Channel (*e.g.*, https://www.youtube.com/user/PayPal).[46]

184.   In each case, the information and materials provided by PayPal contain detailed descriptions and instructions for using and implementing the functionality claimed in at least Claim 2 of the '969 Patent including, at least, card reader device setup, processing chip card ("EMV") card payments, processing magnetic stripe card payments, processing contactless payments, processing refunds, and processing firmware updates.

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[45]   *See, e.g.*, https://developer.paypal.com/docs/integration/paypal-here/.

[46]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-card-reader (directing users to "[w]atch our video to learn more about pairing devices," and providing a link to the video entitled "How to Setup Chip Card Reader on Mobile or Tablet (PayPal Here)" on PayPal's YouTube channel).

185.   Defendant additionally instructs and encourages its customers, Point of Sale Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at least Claim 2 of the '969 Patent by instructing and encouraging its customers and third-parties to use the PayPal Infringing Products with PayPal's Point of Sale Partners.

FIFTH COUNT FOR RELIEF
(DIRECT INFRINGEMENT OF THE '703 PATENT)

186.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding paragraphs as if fully set forth herein.

187.   PayPal is not licensed under the '703 Patent and has no other right or permission to practice the invention embodied therein.

188.   The '703 Patent is presumed valid and PayPal has had actual knowledge of the '703 Patent at least as early as the filing of this Complaint.

189.   On information and belief, PayPal has infringed and continues to infringe, directly (alone or jointly), literally, and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, one or more claims of the '703 Patent by performing, without authority, one or more of the following acts: making, having made, using, importing, selling, and offering for sale in the United States one or more products or services that embody the invention claimed in the '703 Patent, including but not limited to the PayPal Infringing Products. Since at least after receiving notice of this Complaint, Defendant has knowingly infringed, and continues to infringe, one or more claims of the '703 Patent by making, having made, using, importing, selling, and offering for sale in the United States the PayPal Infringing Products, which products constitute a material part of the invention and are not staple articles or commodities of commerce suitable for substantial non-infringing use.

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190.   For example, the PayPal Infringing Products embody the patented invention of the

'703 Patent and infringe at least Claim 104 of the '703 patent because the PayPal Infringing

Products constitute:

"A system implementing a terminal having a processor, an input component, an output component, a network communication interface, and a memory configured to store executable program code, including first program code which, when executed by the terminal processor, is configured to affect the presentation of an interactive user interface by the terminal output component, and second program code which, when executed by the terminal processor, is configured to provide a communications node on the terminal to facilitate communications to and from the terminal, the system comprising:

(a) a communications network node; and

(b) a portable device comprising an external communication interface for enabling the transmission of a plurality of communications between the portable device and the terminal, a processor, and a memory, wherein the memory has executable program code stored thereon, the portable device configured to:

(1) cause the terminal to execute the first program code to affect the presentation of an interactive user interface by the terminal output component;

(2) execute third program code stored on the portable device memory to provide a communications node on the portable device configured to coordinate with the communications node on the terminal and establish a communications link between the portable device and the terminal, and to facilitate communications to the terminal and to a communications network node through the terminal network communication interface;

(3) execute fourth program code stored on the portable device memory in response to a communication received by the portable device resulting from user interaction with the interactive user interface to cause a communication to be transmitted to a communications network node; and

(4) facilitate communications through the terminal network communication interface to a communications network node."[47]

191. **Direct Infringement: The PayPal Here Mobile Payment System Utilizing the PayPal Chip Card Reader.**

The PayPal Chip Card Reader is a portable device that offers a "secure way to process chip card, contactless, and swipe payments on-the-go or in your store":
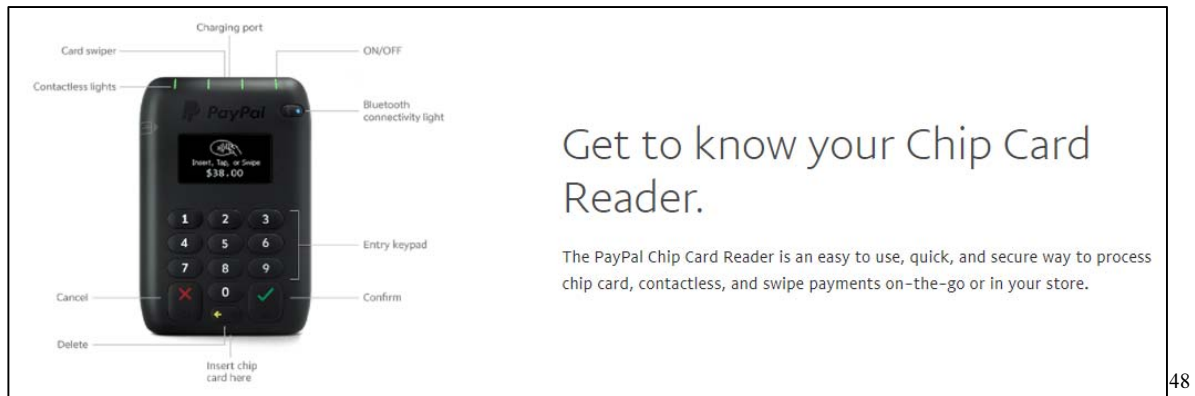
192. The PayPal Chip Card Reader contains a Freescale MCIMX258CJM4A M09P ARM core processor or its equivalent:

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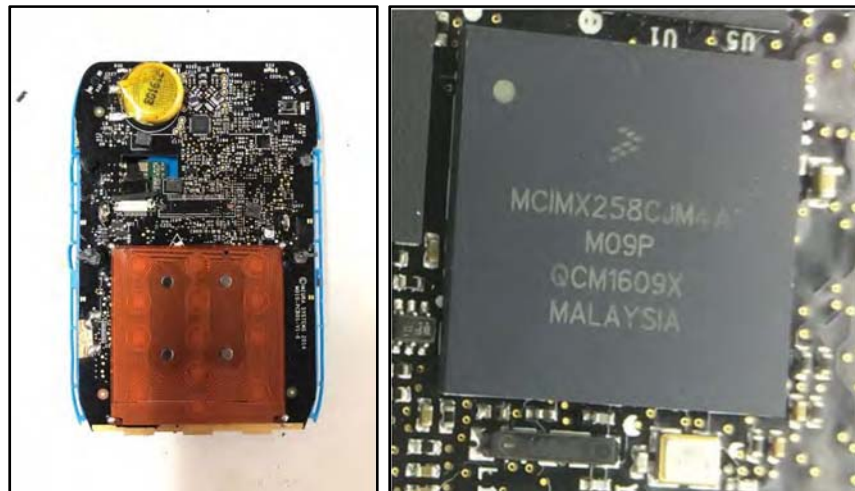
[47]   '703 Patent, Claim 104.

[48]   *See* PayPal Chip Card Reader Guide Website.

193.   The Freescale MCIMX258CJM4A M09P ARM core processor contains 128 KB SRAM, 32 KB ROM, and/or 16 KB data cache memory or its equivalent.

194.   The PayPal Chip Card Reader contains a 2GB Micron Flash memory module with FBGA code NQ282, corresponding to part number MT29F2G08ABBEAHC-IT:E and/or a 512MB SDRAM memory module with FPGA Code D9LQQ, corresponding to part number MT46H32M16LFBF-5 IT:C, or its equivalent:


195.   The PayPal Chip Card Reader contains a Bluetooth communications interface configured to enable the transmission of communications between the PayPal Chip Card Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, a network communications interface, and a memory that is configured to store the PayPal Here App or a POS Partner App). The PayPal Chip Card Reader uses Bluetooth to "pair" with the terminal:

Pair your device to your card reader in 3 steps:

1   Go to your mobile device Settings and turn on Bluetooth®. You'll see a list of available Bluetooth devices.

2   Turn on the card reader. The on-screen Bluetooth icon will start to blink rapidly, indicating that it's ready to connect.

3   Select the card reader from the list of available Bluetooth devices. A steady Bluetooth light on the card reader will indicate that it's successfully paired.

From now on, your card reader will auto-connect to the app whenever you turn it on. Watch our video to learn more about pairing devices.[49]
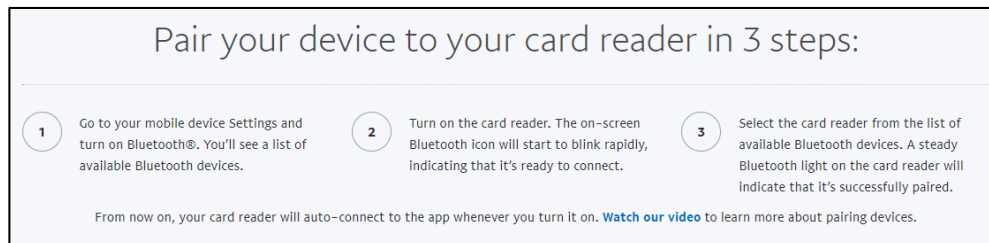
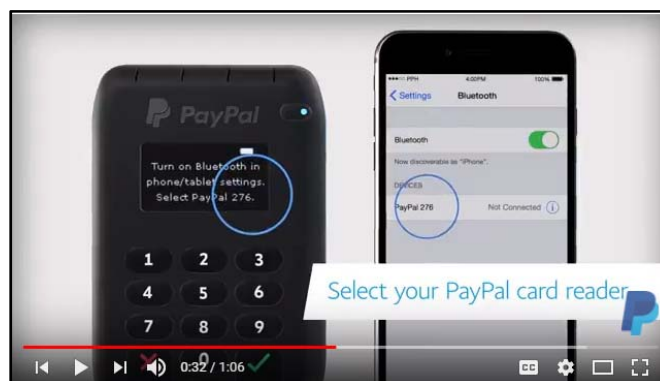[49]   *See* PayPal Chip Card Reader Guide Website.

196.   On information and belief, the PayPal Here App or POS Partner App is designed
to be stored on and run on a terminal and contains program code that is configured to affect the
presentation of an interactive user interface on the terminal's output component.

197.   For example, the PayPal Here App is configured to present an interactive user
interface on the terminal display:
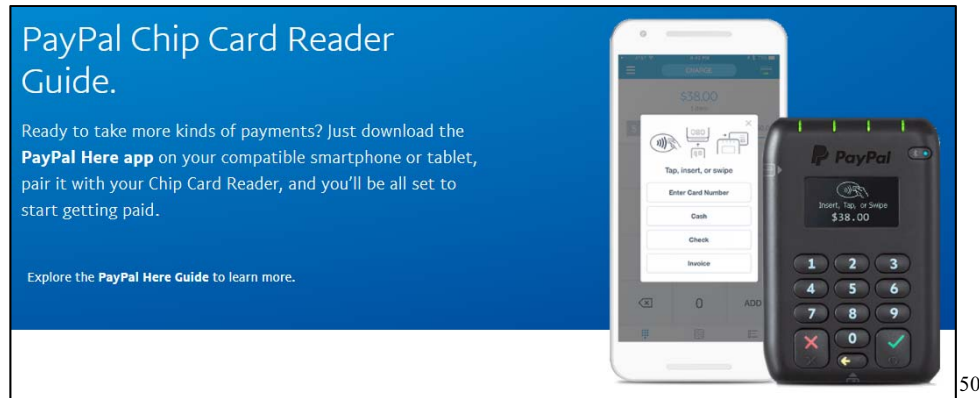
198.   Further, on information and belief, the terminal configured to store the PayPal
Here App or POS Partner App contains program code that is configured to provide a
communications node on the terminal and to facilitate communications to and from the terminal.

199.   For example, on information and belief, the PayPal Here App or POS Partner App
is configured to make use of Bluetooth pairing of the PayPal Chip Card Reader to the terminal:

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[50]   *See* PayPal Chip Card Reader Guide Website.

200.   On information and belief, the PayPal Chip Card Reader is configured to cause

the terminal to execute program code contained in the PayPal Here App or a POS Partner App

that is configured to affect the presentation of a PayPal Here App or POS Partner App's

interactive user interface on the terminal (for example, to indicate that the PayPal Chip Card

Reader has been paired with the terminal, or to display a message that the PayPal Chip Card

Reader requires an update to continue).

201.   For example, the PayPal Chip Card Reader is configured to cause the presentation

of a message on the interactive user interface of the PayPal Here App that the PayPal Chip Card

Reader has been connected and is available for transactions:

How to Setup Chip Card Reader on Mobile or Tablet (PayPal Here)
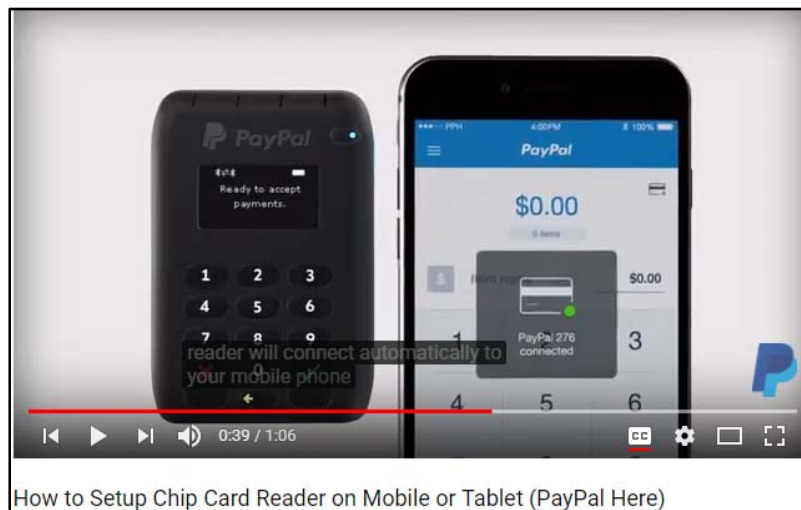
202.   The PayPal Chip Card Reader is also configured to cause the presentation of a

message on the interactive user interface of the PayPal Here App that a firmware update is

required:

203.   Further, on information and belief, the PayPal Chip Card Reader is configured to execute program code stored in the PayPal Chip Card Reader's memory that provides a communications node to coordinate with the communications node on the terminal and establishes a communications link with the PayPal Here App or POS Partner App running on the terminal, and that facilitates communications with the PayPal Here App or a POS Partner App running on the terminal and with a communications network node, such as a network server, through the terminal's network communication interface (for example, to facilitate communication of data to the terminal and to PayPal's secure financial transaction servers to process payments using the PayPal Here App or a POS Partner App, or to request firmware updates).

204.   For example, on information and belief, the PayPal Chip Card Reader stores program code to be executed by the PayPal Chip Card Reader's processor or by a Bluetooth controller that is configured to make use of Bluetooth pairing of the PayPal Chip Card Reader to the terminal:
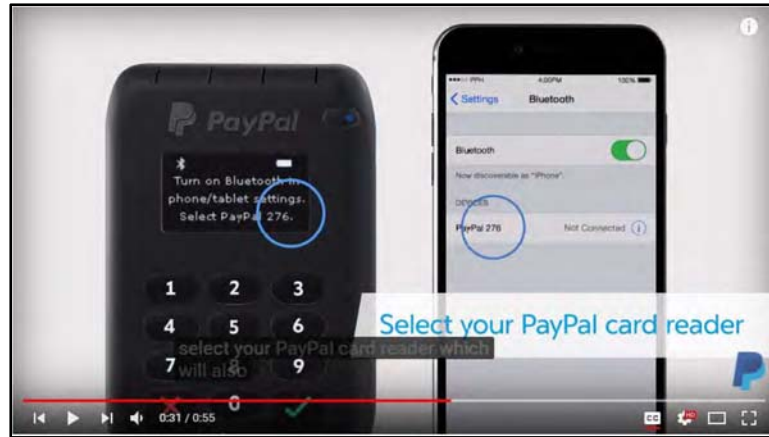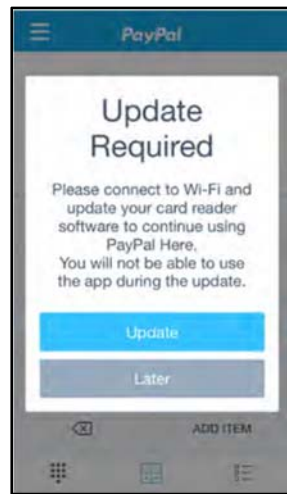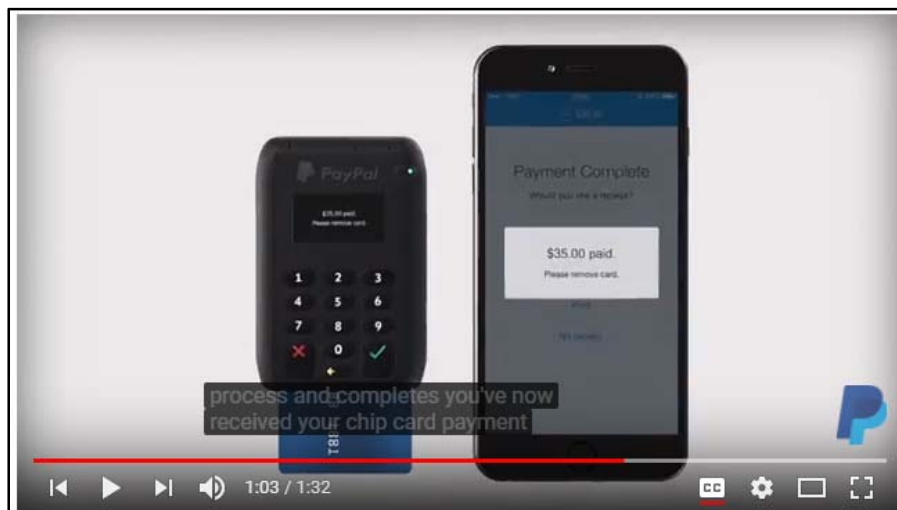
205.   Further, on information and belief, the PayPal Chip Card Reader is configured to

execute program code stored in the PayPal Chip Card Reader's memory in response to a

communication resulting from user interaction with the PayPal Here App or POS Partner App's

interactive user interface, which is configured to cause a communication to be transmitted to a

communications network node such as a network server (for example, to provide data to the

terminal and to PayPal's secure financial transaction servers to process payments using the

PayPal Here App or POS Partner App, or to request firmware updates).

206.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:
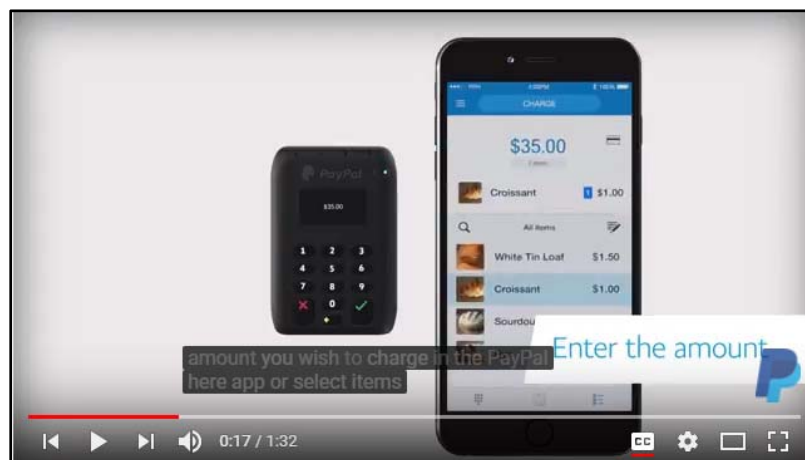
207.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

208.   The PayPal Chip Card Reader's memory stores program code to be executed by

the PayPal Chip Card Reader's processor in response to a communication resulting from user

interaction with the PayPal Here App's user interface that is configured to cause a

communication to be transmitted to a communications network to process the transaction:

209.   The PayPal Chip Card Reader's memory also stores program code to be executed

by the PayPal Chip Card Reader's processor in response to a communication resulting from user

interaction with the PayPal Here App's user interface that is configured to cause a

communication to be transmitted to a communications network to download a firmware update:
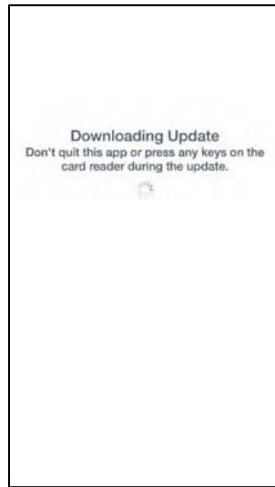

210.   On information and belief, the PayPal Chip Card Reader is configured to facilitate

communications through the network communications interface on the terminal to a

communications network node such as a network server (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App, or to request firmware

updates).

211.   For example, the PayPal Chip Card Reader facilitates communication of payment

data to the terminal and to PayPal's secure financial transaction servers to process payments:
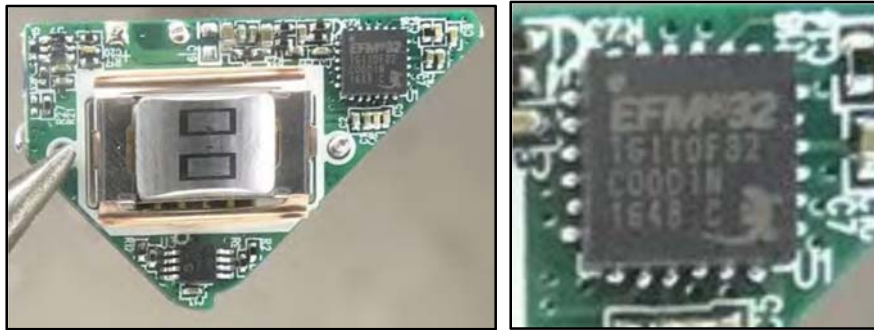
212.   **Direct Infringement: The PayPal Here Mobile Payment System Utilizing the PayPal Mobile Card Reader.**

The PayPal Mobile Card Reader is a portable device that "fits in your pocket and works with compatible mobile devices to help get you paid on-the-go":

[51]
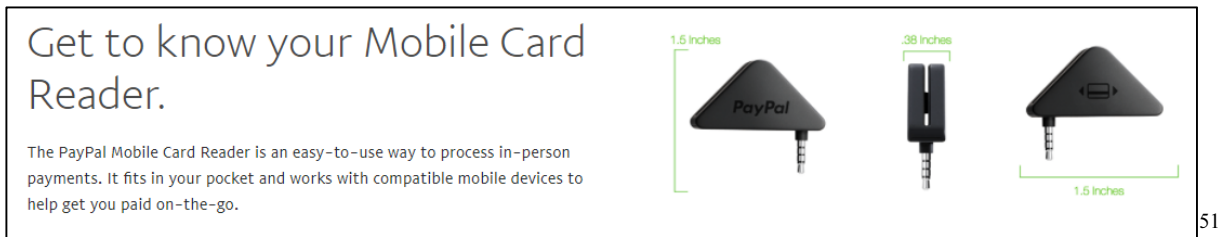
213.   The PayPal Mobile Card Reader contains a EFM32 TG110F32 ARM Cortex-M3 processor or its equivalent:

214.   The PayPal Mobile Card Reader contains memory, including at least up to 32 KB Flash memory and up to 4KB RAM memory integrated into an EFM32 TG110F32 ARM Cortex-M3 processor, or its equivalent.

215.   The PayPal Mobile Card Reader includes an audio jack communications interface (*e.g.*, an AHJ connector) configured to enable the transmission of communications (for example, an audio-data communication sent to the PayPal Mobile Card Reader device over audio pins (pins 3 and 4) of the AHJ interface) between the PayPal Mobile Card Reader and a

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51   *See* PayPal Mobile Card Reader Guide Website.

terminal (for example, an Apple iOS or Android device having a processor, an input component

such as a touchscreen sensor, an output component such as a display, a network

communications interface, and a memory that is configured to store the PayPal Here App or a

POS Partner App).

216.   On information and belief, the PayPal Here App or POS Partner App is designed

to be stored on and run on a terminal and contains program code that is configured to affect the

presentation of an interactive user interface on the terminal's output component.

217.   For example, the PayPal Here App is configured to present an interactive user

interface on the terminal display:
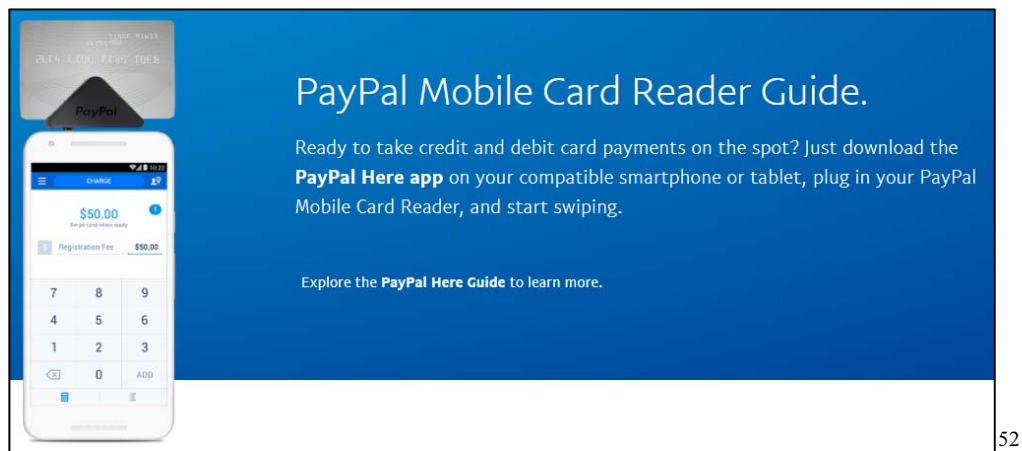
218.   Further, on information and belief, the terminal configured to store the PayPal

Here App or POS Partner App contains program code that is configured to provide a

communications node on the terminal to facilitate communications to and from the terminal.

219.   For example, on information and belief, the PayPal Here App or POS Partner

App is configured to allow for communications with the terminal over the audio pins of an AHJ

interface.

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[52]   *See* PayPal Mobile Card Reader Guide Website.

220.   On information and belief, the PayPal Mobile Card Reader is configured to cause

the terminal to execute program code contained in the PayPal Here App or POS Partner App that

is configured to affect the presentation of a PayPal Here App or POS Partner App's interactive

user interface on the terminal (for example, to indicate that the PayPal Mobile Card Reader has

been connected to the terminal and detected).

221.   For example, the PayPal Mobile Card Reader is configured to cause the

presentation of a message on the interactive user interface of the PayPal Here App that the

PayPal Mobile Card Reader has been detected:

222.   Further, on information and belief, the PayPal Mobile Card Reader is configured

to execute program code stored in the PayPal Mobile Card Reader's memory that provides a

communications node to coordinate with the communications node on the terminal and

establishes a communications link with the PayPal Here App or POS Partner App running on the

terminal, and that facilitates communications (*e.g.*, audio-data communications sent over audio

pins of the AHJ interface) with the PayPal Here App or a POS Partner App running on the

terminal and with a communications network node, such as a network server, through the

terminal's network communication interface (for example, to facilitate communication of data to

the terminal and to PayPal's secure financial transaction servers to process payments using the

PayPal Here App or a POS Partner App).

223.   For example, on information and belief, the PayPal Mobile Card Reader stores

program code to be executed by the PayPal Mobile Card Reader's processor that is configured to

allow for communications with the terminal over the audio pins of an AHJ interface.

224.   Further, on information and belief, the PayPal Mobile Card Reader is configured

to execute program code stored in the PayPal Mobile Card Reader's memory in response to a

communication resulting from user interaction with the PayPal Here App or POS Partner App's

interactive user interface, which is configured to cause a communication to be transmitted to a

communications network node such as a network server (for example, to provide data to the

terminal and to PayPal's secure financial transaction servers to process payments using the

PayPal Here App or a POS Partner App).

225.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:
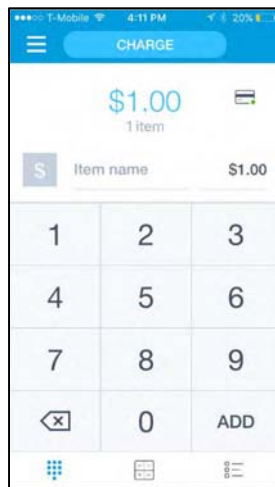
226.   The PayPal Mobile Card Reader's memory stores program code to be executed by

the PayPal Mobile Card Reader's processor in response to a communication resulting from user

interaction with the PayPal Here App's user interface that is configured to cause a

communication to be transmitted to a communications network to process the transaction:


227.   On information and belief, the PayPal Mobile Card Reader is configured to

facilitate communications through the network communications interface on the terminal to a

communications network node such as a network server (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App).

228.   For example, the PayPal Mobile Card Reader facilitates communication of

payment data to the terminal and to PayPal's secure financial transaction servers to process

payments:

229.   **Direct Infringement: The PayPal Here Mobile Payment System Utilizing the**

PayPal Chip and Swipe Reader.

The PayPal Chip and Swipe Reader is a portable device that allows users to "[g]et paid where

your business takes you":
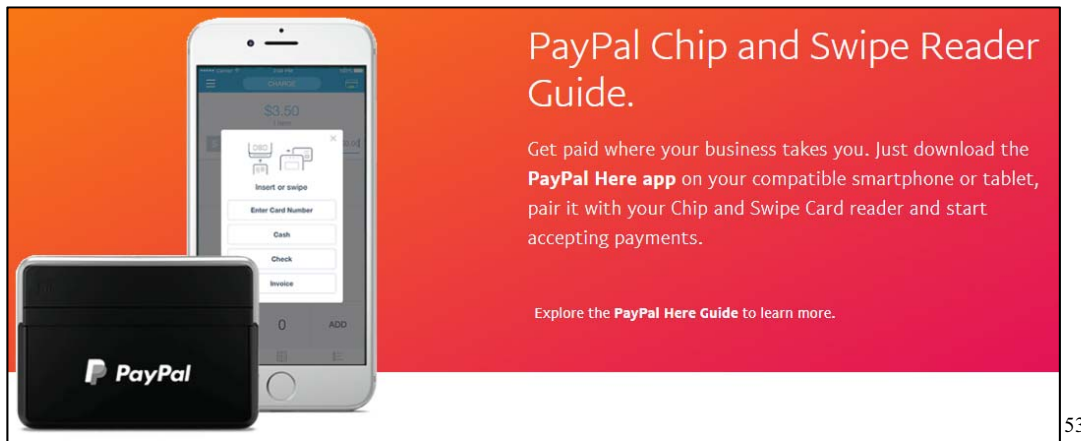
230.   The PayPal Chip and Swipe Reader contains an ARM STM 32F103 Series

microprocessor or its equivalent:
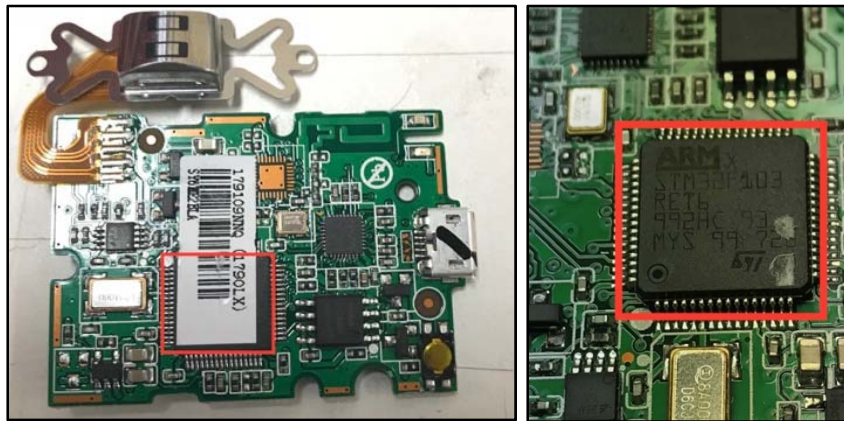
231.   The PayPal Chip and Swipe Reader contains memory, including 16 Kbytes to 1

Mbyte of Flash and 6K to 96K SRAM memory integrated into an ARM STM 32F103 Series

microprocessor, or its equivalent.

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53   *See* PayPal Chip and Swipe Reader Guide Website.

232.   The PayPal Chip and Swipe Reader contains a Bluetooth communications interface configured to enable the transmission of communications between the PayPal Chip and Swipe Reader and a terminal (for example, an Apple iOS or Android device having a processor, an input component such as a touchscreen sensor, an output component such as a display, a network communications interface, and a memory that is configured to store the PayPal Here App or a POS Partner App). The PayPal Chip and Swipe Reader uses Bluetooth to "pair" with the terminal:
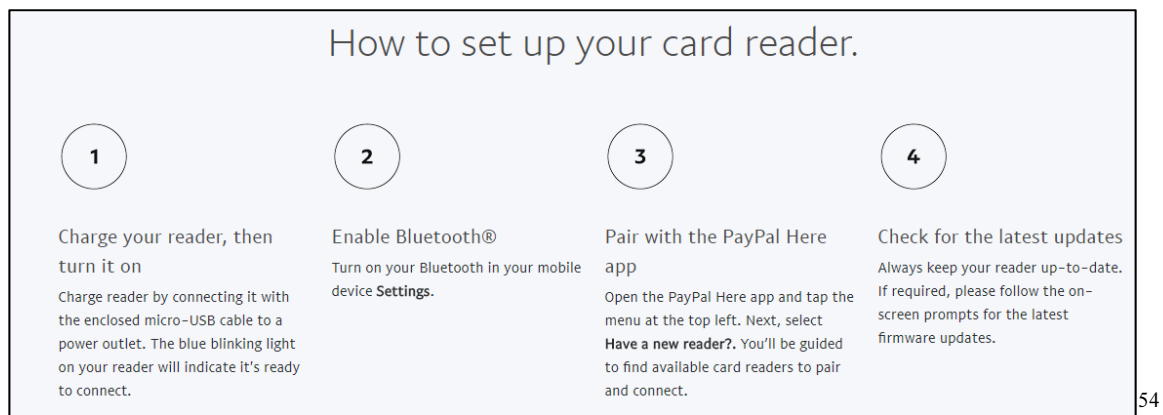
233.   On information and belief, the PayPal Here App or POS Partner App is stored on and run on a terminal and contains program code that is configured to affect the presentation of an interactive user interface on the terminal's output component.
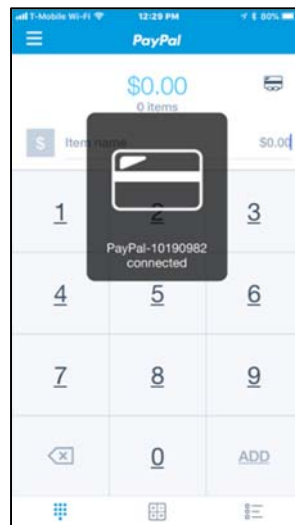
234.   For example, the PayPal Here App is configured to present an interactive user interface on the terminal display:

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⁵⁴   *See* PayPal Chip and Swipe Reader Guide Website.

235.   Further, on information and belief, the terminal configured to store the PayPal

Here App or POS Partner App contains program code that is configured to provide a

communications node on the terminal and to facilitate communications to and from the terminal.
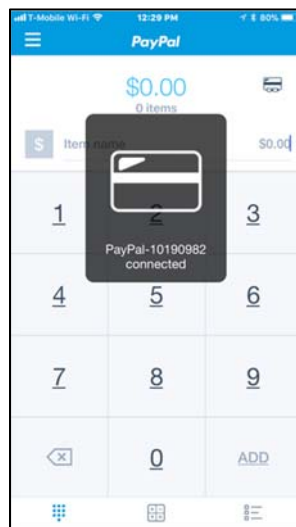
236.   For example, on information and belief, the PayPal Here App or POS Partner App

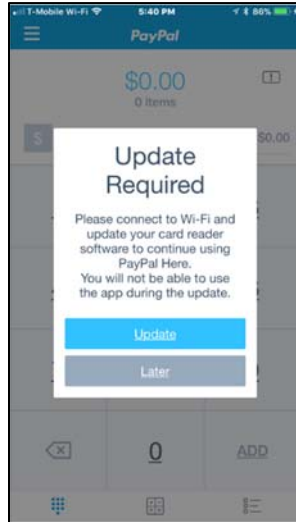is configured to make use of Bluetooth pairing of the PayPal Chip and Swipe Reader to the

terminal:

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55   *See* PayPal Chip and Swipe Reader Guide Website.

237.   On information and belief, the PayPal Chip and Swipe Reader is configured to cause the terminal to execute program code contained in the PayPal Here App or a POS Partner App that is configured to affect the presentation of a PayPal Here App or POS Partner App's interactive user interface on the terminal (for example, to indicate that the PayPal Chip and Swipe Reader has been paired with the terminal, or to display a message that the PayPal Chip and Swipe Reader requires an update to continue).

238.   For example, the PayPal Chip and Swipe Reader is configured to cause the presentation of a message on the interactive user interface of the PayPal Here App that the PayPal Chip and Swipe Reader has been connected and is available for transactions:
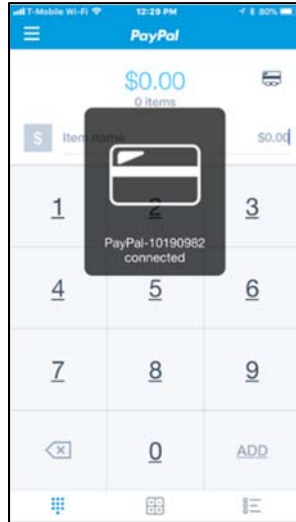

239.   The PayPal Chip and Swipe Reader is also configured to cause the presentation of a message on the interactive user interface of the PayPal Here App that a firmware update is required:

240.   Further, on information and belief, the PayPal Chip and Swipe Reader is

configured to execute program code stored in the PayPal Chip and Swipe Reader's memory that

provides a communications node to coordinate with the communications node on the terminal

and establishes a communications link with the PayPal Here App or a POS Partner App running

on the terminal, and that facilitates communications with the PayPal Here App or a POS Partner

App running on the terminal and with a communications network node, such as a network server,

through the terminal's network communication interface (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App, or to request firmware

updates).

241.   For example, on information and belief, the PayPal Chip and Swipe Reader stores

program code to be executed by the PayPal Chip and Swipe Reader's processor or by a

Bluetooth controller that is configured to make use of Bluetooth pairing of the PayPal Chip and

Swipe Reader to the terminal:

242.   Further, on information and belief, the PayPal Chip and Swipe Reader is configured to execute program code stored in the PayPal Chip and Swipe Reader's memory in response to a communication resulting from user interaction with the PayPal Here App or POS Partner App's interactive user interface, which is configured to cause a communication to be transmitted to a communications network node such as a network server (for example, to provide data to the terminal and to PayPal's secure financial transaction servers to process payments using the PayPal Here App or POS Partner App, or to request firmware updates).
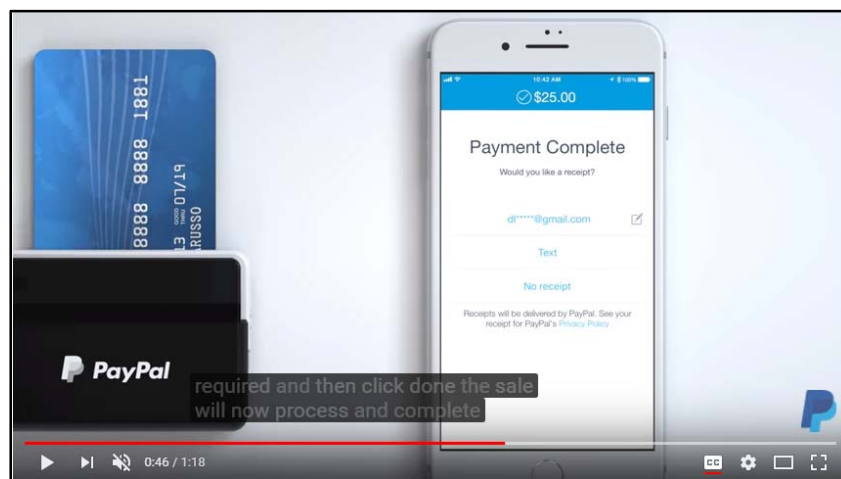
243.   For example, the PayPal Here App's user interface allows the user to enter the charge amount and to initiate the transaction by pressing the "charge" button:

86
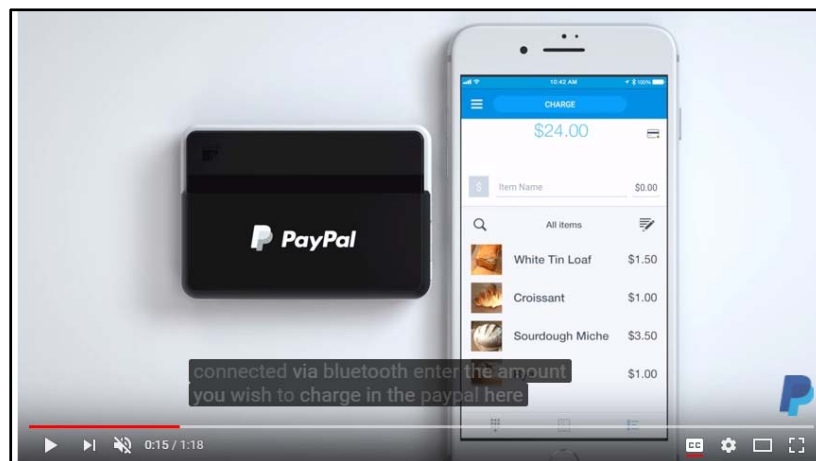
244. The PayPal Here App's user interface also allows the user to initiate a firmware update by pressing the "update" button:
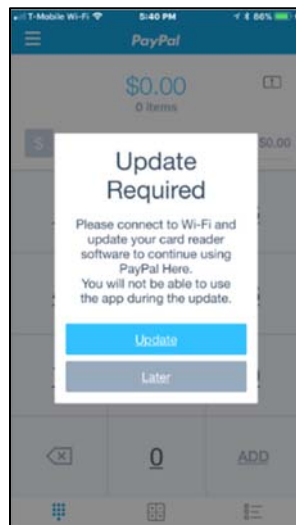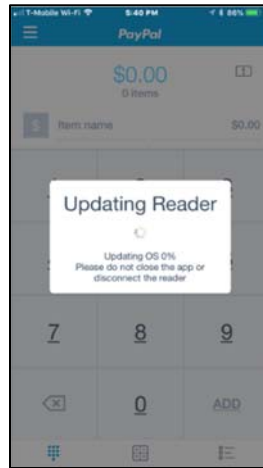

245. The PayPal Chip and Swipe Reader's memory stores program code to be executed by the PayPal Chip and Swipe Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to cause a communication to be transmitted to a communications network to process the transaction:


246. The PayPal Chip and Swipe Reader's memory also stores program code to be executed by the PayPal Chip and Swipe Reader's processor in response to a communication resulting from user interaction with the PayPal Here App's user interface that is configured to

cause a communication to be transmitted to a communications network to download a firmware

update:

247.   On information and belief, the PayPal Chip and Swipe Reader is configured to

facilitate communications through the network communications interface on the terminal to a

communications network node such as a network server (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App, or to request firmware

updates).

248.   For example, the PayPal Chip and Swipe Reader facilitates communication of

payment data to the terminal and to PayPal's secure financial transaction servers to process
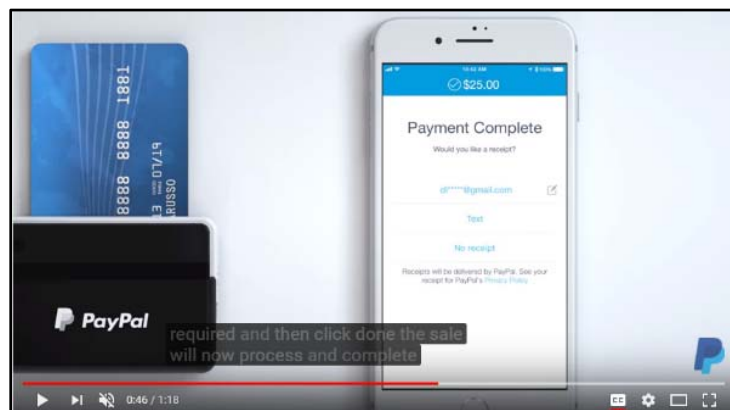
payments:

249.   **Direct Infringement: The PayPal Here Mobile Payment System Utilizing the PayPal Chip and Tap Reader.**

The PayPal Chip and Tap Reader is a portable device that allows users to "get paid on-the-go" and "start accepting payments where your business takes you":
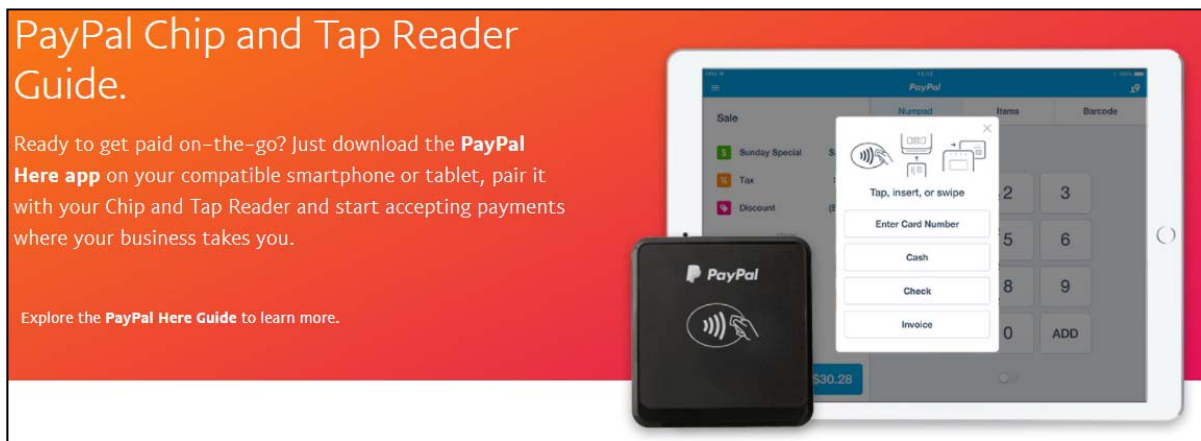

250.   The PayPal Chip and Tap Reader contains a Kinetis MK21FX512VMC12 microprocessor or its equivalent:
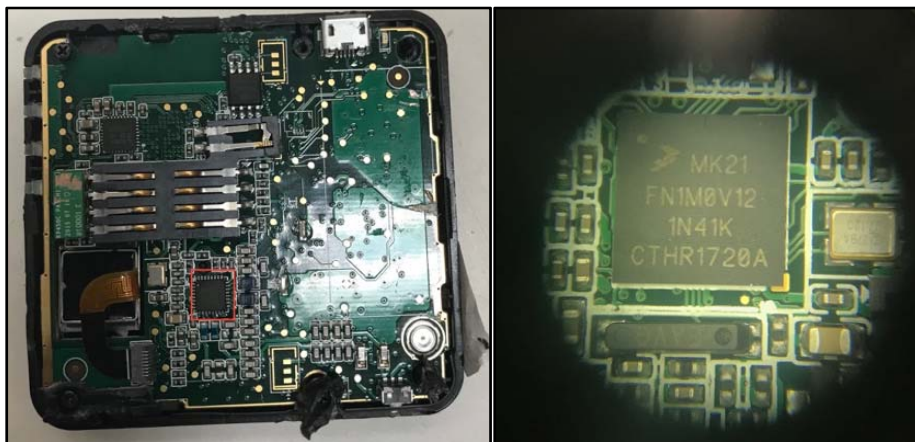
251.   The PayPal Chip and Tap Reader contains memory, including FLASH and SRAM memory integrated into a Kinetis MK21FX512VMC12 microprocessor, or its equivalent.

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56   *See* PayPal Chip and Tap Reader Guide Website.

252.   The PayPal Chip and Tap Reader contains a Bluetooth communications interface

configured to enable the transmission of communications between the PayPal Chip and Tap

Reader and a terminal (for example, an Apple iOS or Android device having a processor, an

input component such as a touchscreen sensor, an output component such as a display, a network

communications interface, and a memory that is configured to store the PayPal Here App or a

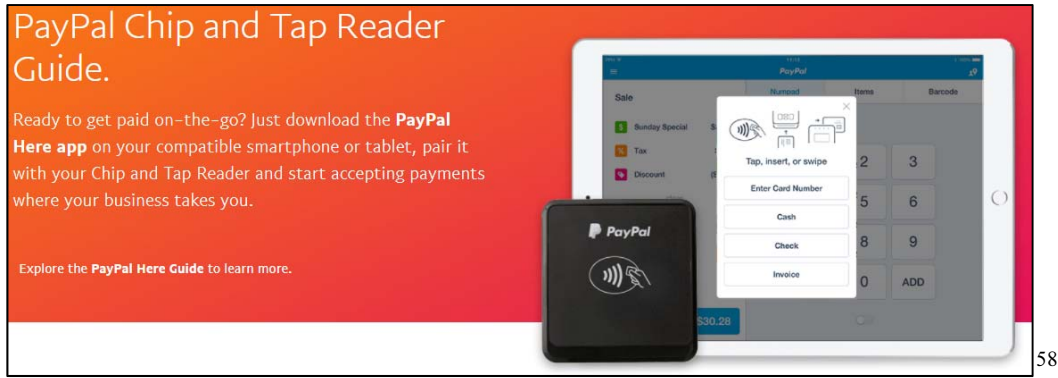POS Partner App). The PayPal Chip and Tap Reader uses Bluetooth to "pair" with the terminal:
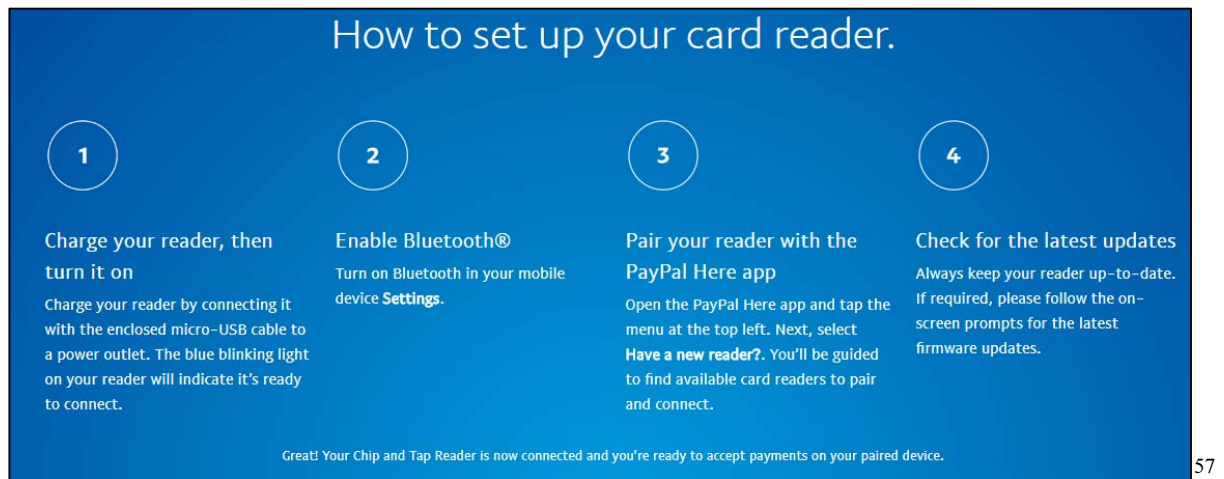
253.   On information and belief, the PayPal Here App or POS Partner App is designed

to be stored on and run on a terminal and contains program code that is configured to affect the

presentation of an interactive user interface on the terminal's output component.

254.   For example, the PayPal Here App is program code configured to present an

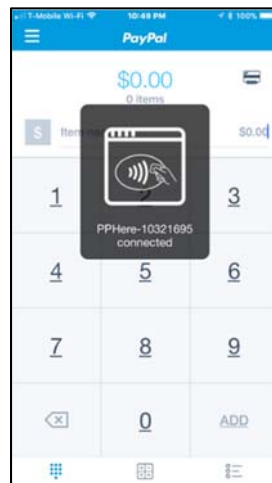interactive user interface on the terminal display:

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[57]   *See* PayPal Chip and Tap Reader Guide Website.

255.   Further, on information and belief, the terminal configured to store the PayPal

Here App or POS Partner App contains program code that is configured to provide a

communications node on the terminal to facilitate communications to and from the terminal.

256.   For example, on information and belief, the PayPal Here App or POS Partner App

is configured to make use of Bluetooth pairing of the PayPal Chip and Tap Reader to the
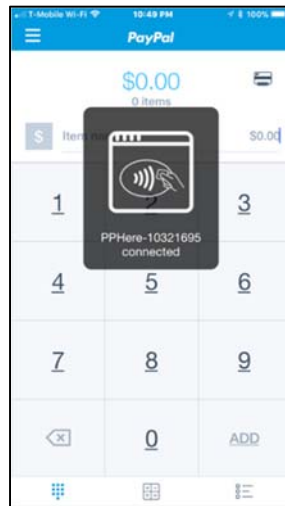
terminal:

257.   On information and belief, the PayPal Chip and Tap Reader is configured to cause

the terminal to execute program code contained in the PayPal Here App or a POS Partner App

that is configured to affect the presentation of a PayPal Here App or POS Partner App's
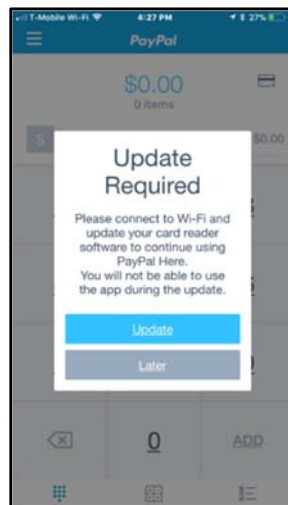
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[58]   *See* PayPal Chip and Tap Reader Guide Website.

interactive user interface on the terminal (for example, to indicate that the PayPal Chip and Tap

Reader has been paired with the terminal, or to display a message that the PayPal Chip and Tap

Reader requires an update to continue).

258.   For example, the PayPal Chip and Tap Reader is configured to cause the

presentation of a message on the interactive user interface of the PayPal Here App that the

PayPal Chip and Tap Reader has been connected and is available for transactions:
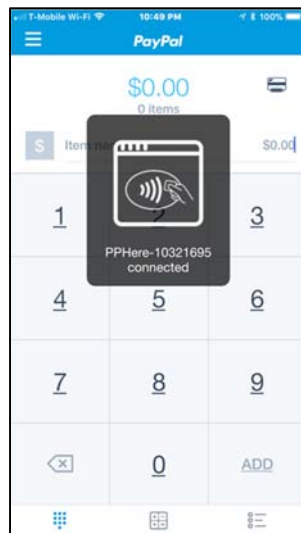

259.   The PayPal Chip and Tap Reader is also configured to cause the presentation of a

message on the interactive user interface of the PayPal Here App that a firmware update is

required:

260.   Further, on information and belief, the PayPal Chip and Tap Reader is configured to execute program code stored in the PayPal Chip and Tap Reader's memory that provides a communications node to coordinate with the communications node on the terminal and establishes a communications link with the PayPal Here App or a POS Partner App running on the terminal, and that facilitates communications with the PayPal Here App or POS Partner App running on the terminal and with a communications network node, such as a network server, through the terminal's network communication interface (for example, to facilitate communication of data to the terminal and to PayPal's secure financial transaction servers to process payments using the PayPal Here App or a POS Partner App, or to request firmware updates).

261.   For example, on information and belief, the PayPal Chip and Tap Reader stores program code to be executed by the PayPal Chip and Tap Reader's processor or by a Bluetooth controller that is configured to make use of Bluetooth pairing of the PayPal Chip and Tap Reader to the terminal:

262.   Further, on information and belief, the PayPal Chip and Tap Reader is configured to execute program code stored in the PayPal Chip and Tap Reader's memory in response to a

communication resulting from user interaction with the PayPal Here App or POS Partner App's

interactive user interface, which is configured to cause a communication to be transmitted to a

communications network node such as a network server (for example, to provide data to the

terminal and to PayPal's secure financial transaction servers to process payments using the

PayPal Here App or a POS Partner App, or to request firmware updates).
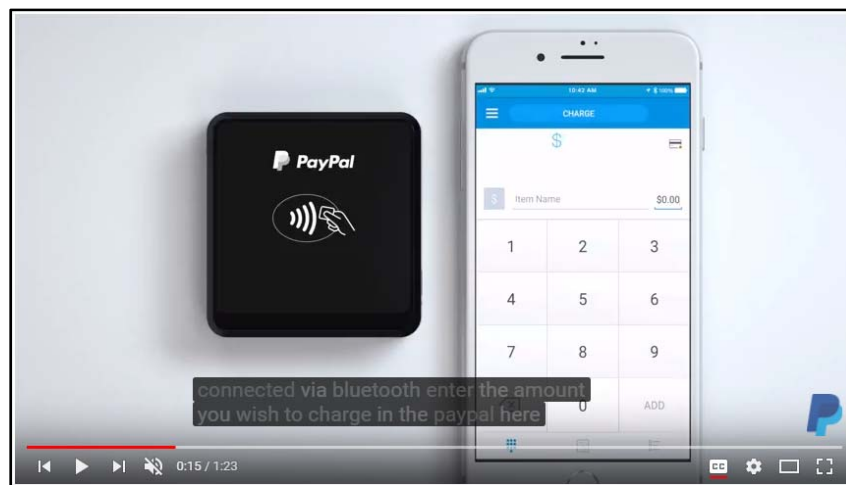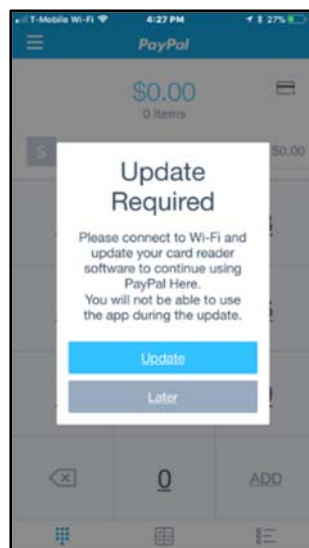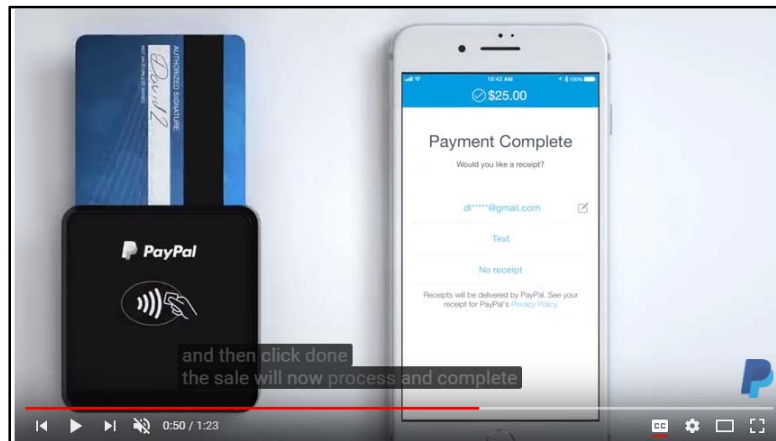
263.   For example, the PayPal Here App's user interface allows the user to enter the

charge amount and to initiate the transaction by pressing the "charge" button:


264.   The PayPal Here App's user interface also allows the user to initiate a firmware

update by pressing the "update" button:

265.   The PayPal Chip and Tap Reader's memory stores program code to be executed

by the PayPal Chip and Tap Reader's processor in response to a communication resulting from

user interaction with the PayPal Here App's user interface that is configured to cause a

communication to be transmitted to a communications network to process the transaction:


266.   The PayPal Chip and Tap Reader's memory also stores program code to be

executed by the PayPal Chip and Tap Reader's processor in response to a communication

resulting from user interaction with the PayPal Here App's user interface that is configured to

cause a communication to be transmitted to a communications network to download a firmware

update:
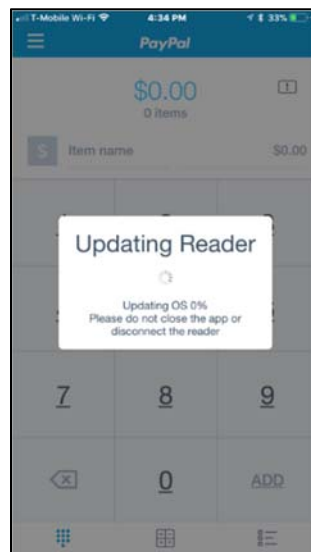
267.   On information and belief, the PayPal Chip and Tap Reader is configured to

facilitate communications through the network communications interface on the terminal to a

communications network node such as a network server (for example, to facilitate

communication of data to the terminal and to PayPal's secure financial transaction servers to

process payments using the PayPal Here App or a POS Partner App, or to request firmware

updates).

268.   For example, the PayPal Chip and Tap Reader facilitates communication of

payment data to the terminal and to PayPal's secure financial transaction servers to process

payments:
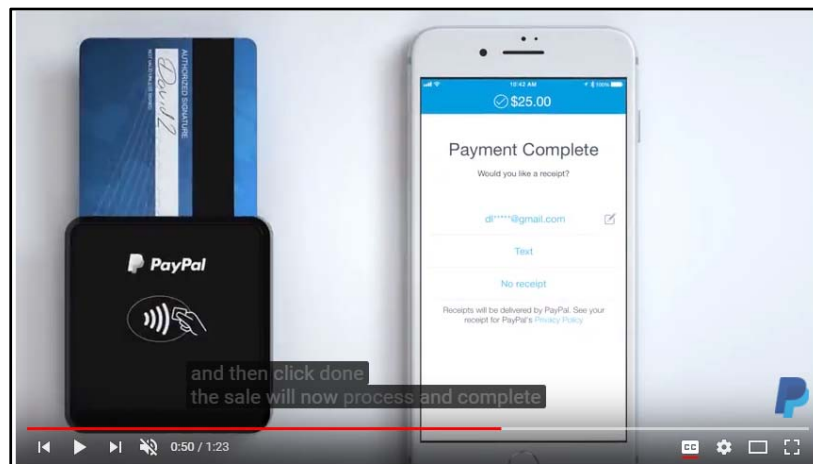
269.   By infringing the '703 Patent, PayPal has caused and will continue to cause

Plaintiff to suffer damages in an amount to be determined at trial *i.e.* in an amount that by law

cannot be less than would constitute a reasonable royalty for the use of the patented technology,

together with pre-judgment and post-judgment interest thereon.

270.   Plaintiff has no adequate remedy at law against PayPal's acts of infringement, and

unless PayPal is permanently enjoined from infringing the '703 Patent, Plaintiff will suffer

irreparable harm.

271.   To the extent that PayPal has continued or continues to make, have made, use, import, sell, or offer for sale products or services that infringe the '703 Patent following its awareness of the '703 Patent, PayPal's infringement is willful and entitles IOENGINE to an award of enhanced damages pursuant to 35 U.S.C. § 284 and attorneys' fees pursuant to 35 U.S.C. § 285.

SIXTH COUNT FOR RELIEF
(INDIRECT INFRINGEMENT OF THE '703 PATENT)

272.   IOENGINE repeats, re-alleges, and incorporates by reference the preceding paragraphs as if fully set forth herein, including but not limited to paragraphs 186 to 271.

273.   On information and belief, PayPal has infringed and continues to infringe indirectly by way of inducement and contributory infringement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271, one or more claims of the '703 Patent by performing, without authority, one or more of the following acts: making, having made, using, importing, selling, and offering for sale in the United States one or more products or services that embody the invention claimed in the '703 Patent, including but not limited to the PayPal Infringing Products, and encouraging and instructing its customers, Point of Sale Partners, and third parties to make and use the PayPal Infringing Products in a manner that infringes the '703 Patent. Since at least after receiving notice of this Complaint, Defendant has knowingly contributed to the infringement of and induced infringement of, and continues to knowingly contribute to the infringement of and induce infringement of, one or more claims of the '703 Patent with specific intent that the PayPal Infringing Products be used by its customers, Point of Sale Partners, and third parties to directly infringe the '703 Patent, which products constitute a material part of the invention and are not staple articles or commodities of commerce suitable for substantial non-infringing use.

274.   Defendant instructs and encourages its customers, Point of Sale Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at least Claim 104 of the '703 Patent.

275.   For example, Defendant provides software development kits that allow, instruct, and encourage customers, Point of Sale Partners, and third parties to "create fully customized, branded apps that enable credit or debit card payments in-store using PayPal card readers."[59]

276.   Defendant further provides information and technical support on its website (*available at* www.paypal.com; *see also* https://www.paypal.com/us/webapps/mpp/credit-card-reader) that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

277.   Defendant further provides information and technical support on third-party platforms (*e.g.*, https://www.youtube.com/user/PayPal), including videos, demonstrations, and other information, that instructs and encourages customers, Point of Sale Partners, and third parties on how to use the PayPal Infringing Products.

278.   PayPal also instructs and encourages the use of the PayPal Infringing Products in an infringing manner by directing users to the videos on PayPal's YouTube Channel (*e.g.*, https://www.youtube.com/user/PayPal).[60]

279.   In each case, the information and materials provided by PayPal contain detailed descriptions and instructions for using and implementing the functionality claimed in at least

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[59]   *See, e.g.*, https://developer.paypal.com/docs/integration/paypal-here/.

[60]   *See, e.g.*, https://www.paypal.com/us/webapps/mpp/credit-card-reader-how-to/chip-card-reader (directing users to "[w]atch our video to learn more about pairing devices," and providing a link to the video entitled "How to Setup Chip Card Reader on Mobile or Tablet (PayPal Here)" on PayPal's YouTube channel).

Claim 104 of the '703 Patent including, at least, card reader device setup, processing chip card

("EMV") card payments, processing magnetic stripe card payments, processing contactless

payments, processing refunds, and processing firmware updates.

280.   Defendant additionally instructs and encourages its customers, Point of Sale

Partners, and third parties to use the PayPal Infringing Products in a manner that infringes at

least Claim 104 of the '703 Patent by instructing and encouraging its customers and third-parties

to use the PayPal Infringing Products with PayPal's Point of Sale Partners.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for judgment on the complaint as follows:

a.   Judgment in favor of IOENGINE and against Defendant for infringement, either

literally and/or under the doctrine of equivalents, of one or more claims of each of the Patents-

in-Suit;

b.   Entry of a permanent injunction enjoining Defendant and its affiliated entities,

officers, agents, servants, employees, and those persons in active concert or participation with

them who receive actual notice thereof, from directly or indirectly infringing, inducing the

infringement of, or contributing to the infringement of each of the Patents-in-Suit;

c.   An award to IOENGINE of compensatory damages arising out of Defendant's

infringement, including damages for any continuing post-verdict infringement up until entry of

the final judgment and increased damages for Defendant's willful infringement, together with

pre-judgment and post-judgment interest thereon;

d.   An award to IOENGINE of costs, interest, and reasonable attorneys' fees

incurred herein;

e.   An accounting for future sales and an award to IOENGINE of compensatory

damages arising out of Defendant's ongoing infringement and increased damages for

Defendant's willful ongoing infringement; and

f.   Such other and further relief as the Court may deem just and appropriate.

DEMAND FOR JURY TRIAL

281.   In accordance with Rule 38 of the Federal Rules of Civil Procedure, Plaintiff

demands a trial by jury on all issues so triable.

Dated: March 23, 2018

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